Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Phillips Oil Company

3. ADDRESS OF OPERATOR: P. O. Box 2920, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 510' FNL, 1980' FEL (NW NE)
At proposed prod. zone: same

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo

7. UNIT AGREEMENT NAME: SW-I-4192

8. FARM OR LEASE NAME: Ratherford Unit

9. WELL NO.: #19-31

10. FIELD AND POOL, OR WILDCAT: Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 19-T41S-R24E

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 4 miles south of Montezuma Creek, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 3300' East of Ratherford Unit Lease Line

16. NO. OF ACRES IN LEASE: 2534 Acres

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40 Acres

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1290' south of #18-34

19. PROPOSED DEPTH: 5700' Desert Creek

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4763' ungraded ground

22. APPROX. DATE WORK WILL START*: As soon as BLM approval is secured

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48#	100'	150 sx (Circ to surface)
12-1/4"	9-5/8"	36#	1600'	800 sx (Circ to surface)
8-1/2"	7"	23#, & 26#	5700'	1000 sx est. (T.O.C. approx 2000

Approval is requested to drill Ratherford Unit #19-31, a Desert Creek Development oil well to increase the ultimate recovery from the Ratherford Unit.

BOP equipment will be operated daily and tested weekly.

RECEIVED
JUL 16 1
DIVISION OF OIL GAS & MINING

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 7/27/84
BY: John R. Baza

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED: A. E. Stuart — TITLE: Area Manager — DATE: July 6, 1984

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

5- BLM, Farmington, NM
2- Utah O&GCC - S.L.C, Utah
1- LeRoy Williamson (r) T. C. Doughty
1-G.W. Berk
1-J.R. Weichbrodt
1- File
1-Chevron - Denver
1- Superior Denver
1- Texaco - Denver
Form 9-331C & Location Plat Only -
B. C. Conner, R.M. Coffelt, P.J. Adamson

*See Instructions On Reverse Side

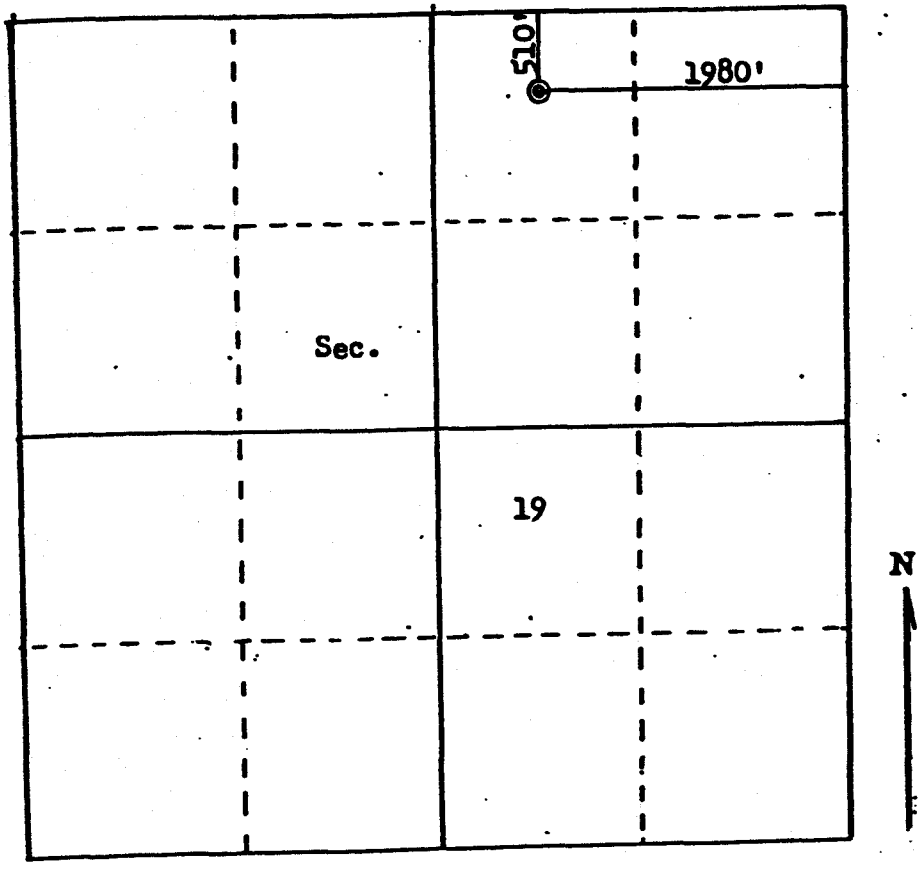
COMPANY PHILLIPS OIL COMPANY

LEASE RATHERFORD UNIT WELL NO. 19-31

SEC. 19 T. 41S R. 24E
SAN JUAN COUNTY, UTAH

LOCATION 510'FNL 1980'FEL

ELEVATION 4763 ungraded ground



SCALE—4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SEAL

Registered Land Surveyor.
#3950
JAMES P. KEAN, JR.

SURVEYED May 14, 1984

FARMINGTON, N. M.

IV. WORKOVERS

None

Wells Currently Being Drilled

#17-24 - RURT 11/6/84. Spudded 12-1/4" surf hole at 1:30 a.m. 11/7/84, Drld to 1612'. Set 9-5/8" csg at 1612', cmtd w/700 sx Class B. Full returns, no cmt. Cmtd 1" down backside w/100 sx Class B. Drld 8-3/4" hole to TD 5623', 11/18/84. Set 7" csg at 5594', cmtd w/700 sx Class B. Released rig at 12:00 midnight, 11/21/84. As of November 30, 1984 - Waiting on completion unit.

#18-44 - MI Completion Unit 11/22/84. Drld out to PBTD 5617'. Perforated 5591-5608', 34 shots, 5587-5590.5', 7 shots and 5577-5587', 20 shots. All 2 SPF, 4" hollow steel carrier gun. Spotted 500 gal 28% FE Acid. Acidized w/2875 gal acid. Flowing on test from lower Desert Creek Zone I perfs 5577-5608', with a test of 138 BOPD, 55 MCFGPD, 0 BWPD. Prep to perf upper interval.

#19-11 - Drld cond hole to 122'. Set & cmtd 13-3/8" csg at 121' w/150 sx Class B. RURT 11/22/84. Spudded 12-1/4' surf hole at 6:00 p.m., 11/22/84. Set 9-5/8" csg at 1610', cmtd w/700 sx Class B. Drld 8-3/4" hole to 4707'. As of November 30, 1984 - Drlg at 4707'.

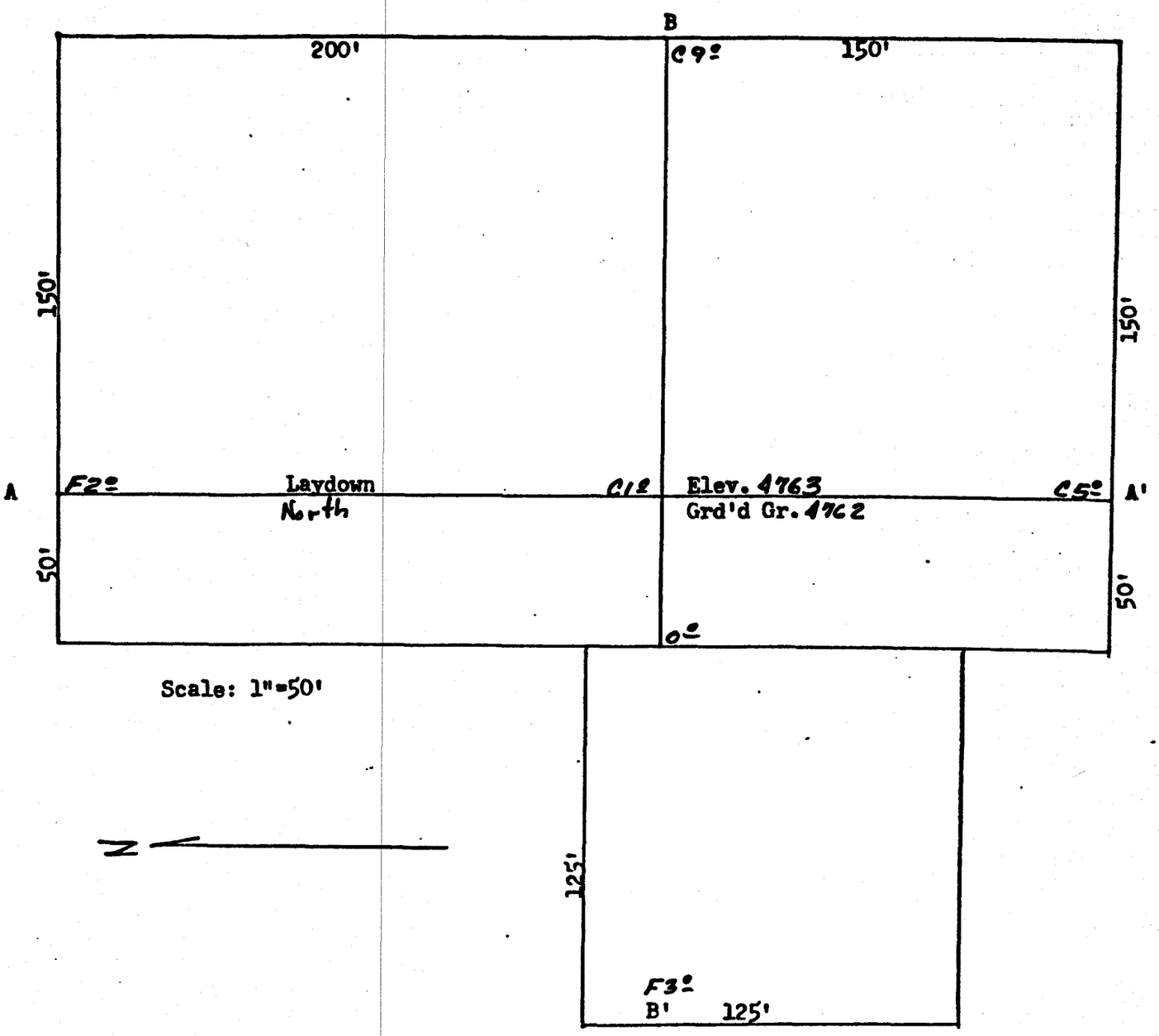
#19-31 - Shut-in, waiting to perforate upper interval.

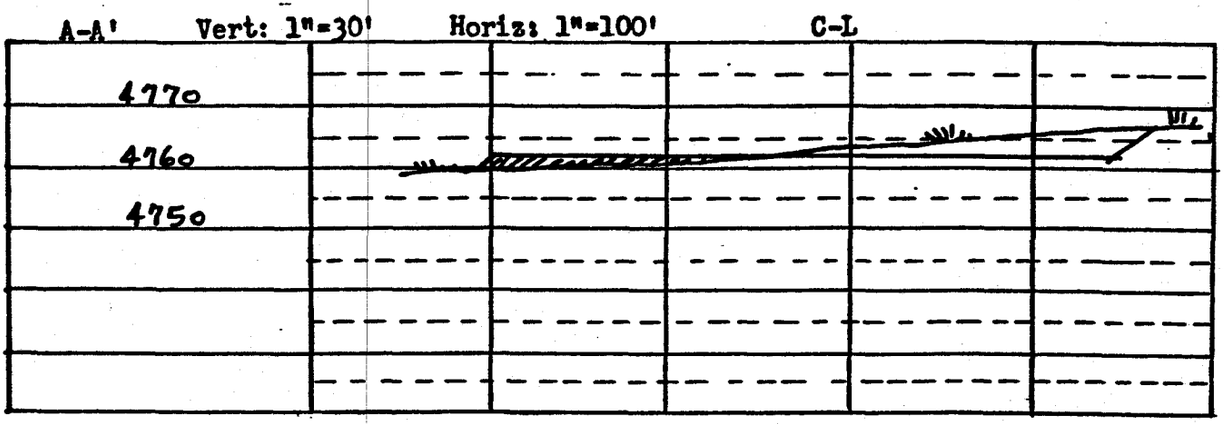
#19-33 - Drld to TD 5590', 11/2/84. Set 7" csg at 5590', cmtd w/700 sx Class B. Released rig at 12:00, 11/6/84. MI completion unit 11/16/84. Drld out to PBTD 5564'. Press test csg to 1500 psi, OK. LD tbg, DC, scraper & bit. ND BOP's. NU wellhead. Released rig 11/19/84. As of 11/30/84 - Waiting on cased hole logging unit.

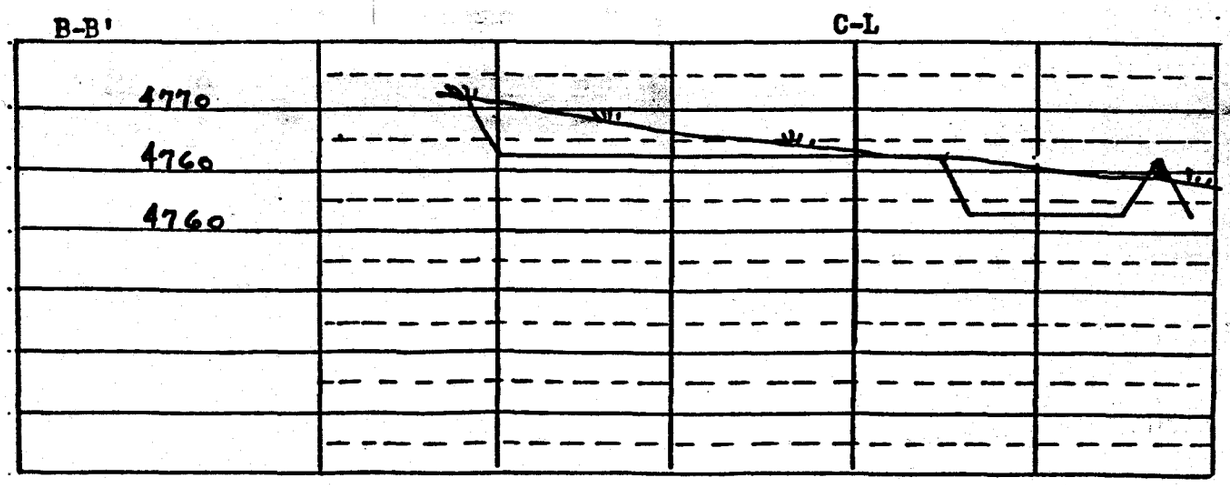
#19-44 - Drld cond hole to 125'. Set & cmtd 13-3/8" csg at 123' w/150 sx Class B. As of 11/30/84 - Waiting on rotary tools.

#20-11 - Drld to 5573'. Core #1 5567-5627', cut & rec 60'. Core #2 5627-5657', cut & rec 30'. TD 5657', 11/5/84. Set 7" csg at 5657', cmtd w/700 sx Class B. Released rig 11/6/84. As of 11/30/84 - Waiting on completion unit.

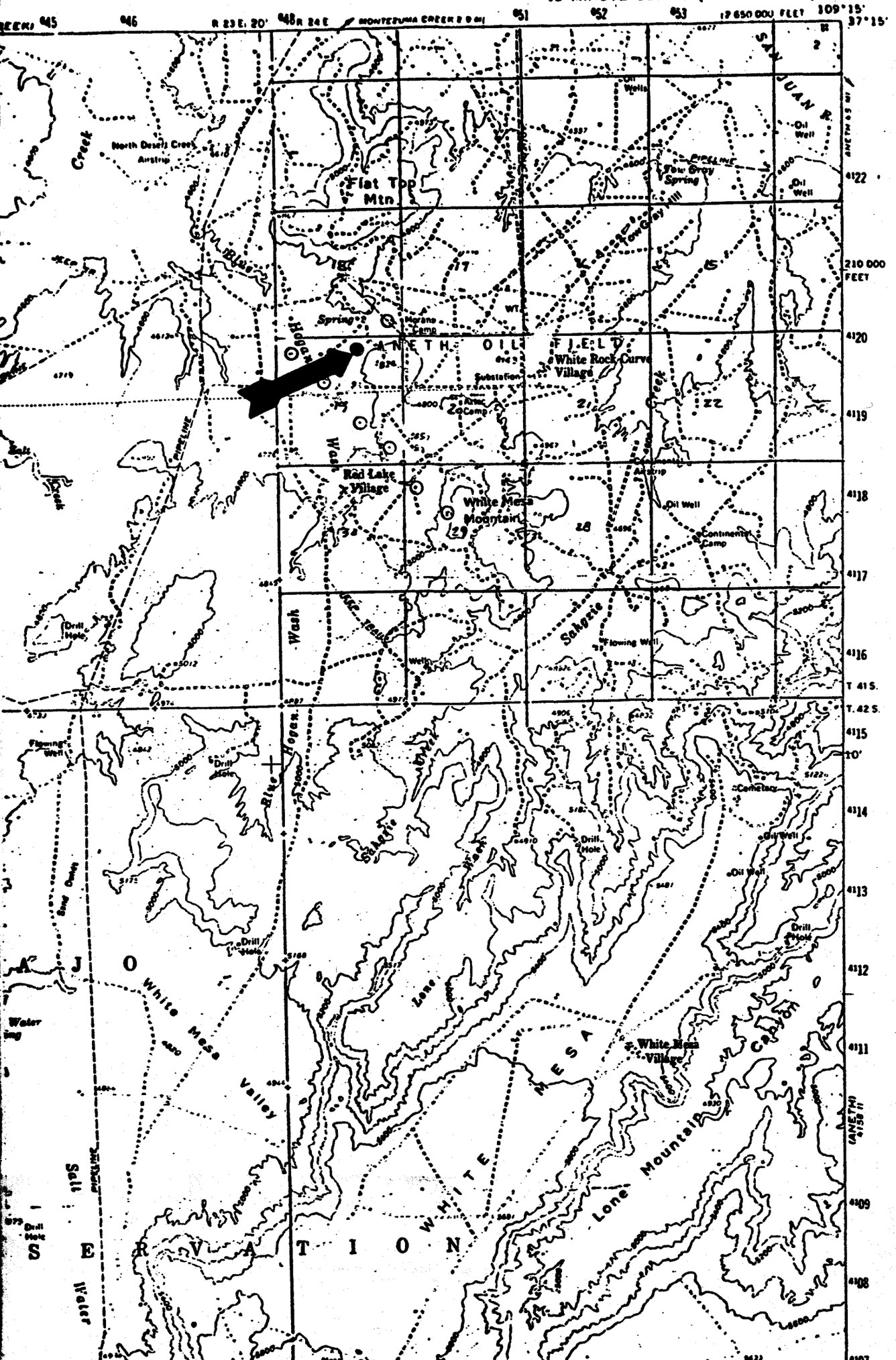
Profile for
PHILLIPS OIL COMPANY # 19-31 RATHERFORD UNIT
510'FNL 1980'FEL Sec. 19-T41S-R24E
SAN JUAN COUNTY, UTAH







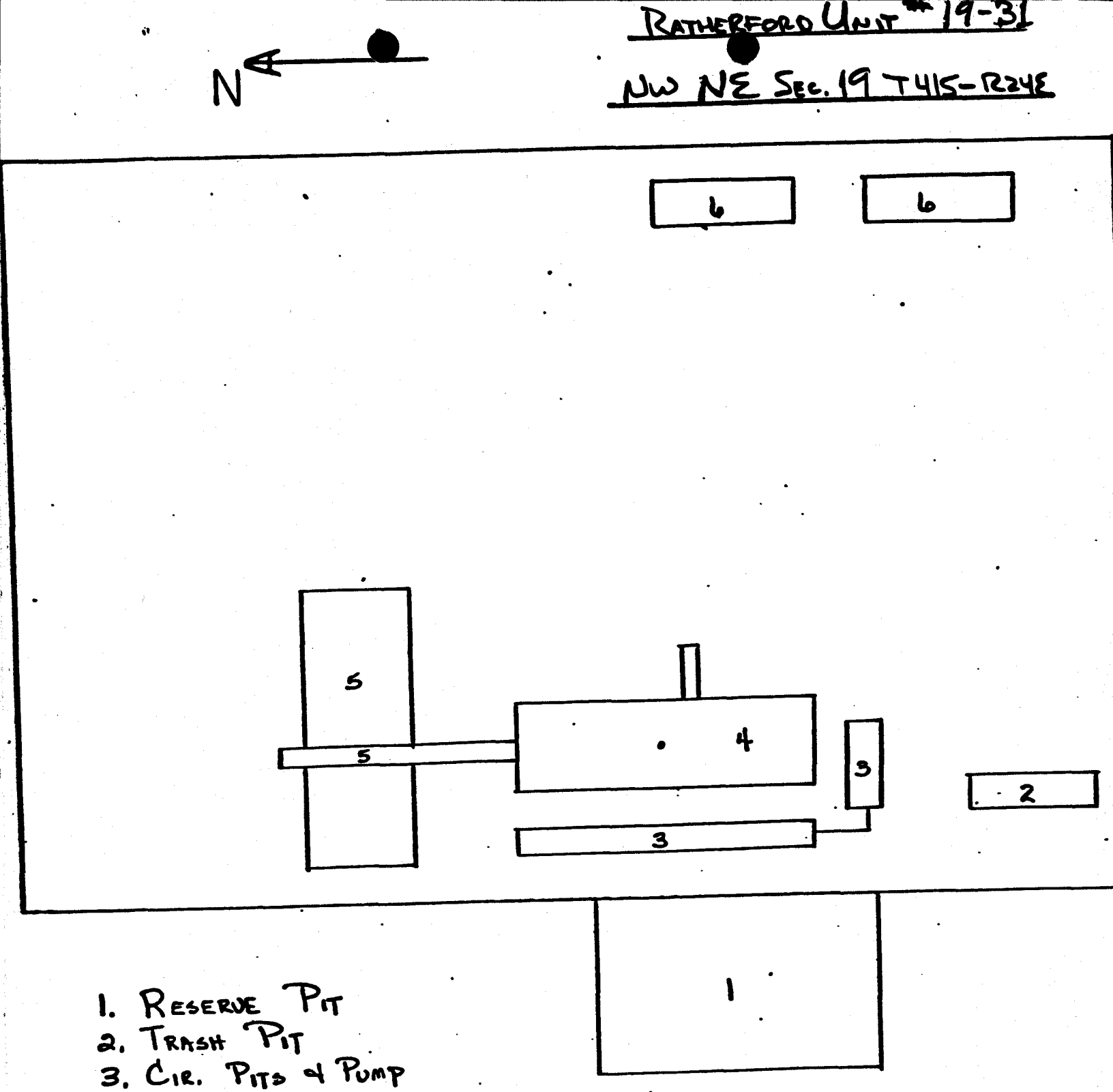
WHITE MESA VILLAGE QUADRANGLE
UTAH
15 MINUTE SERIES (TOPOGRAPHIC)



Vicinity Map for
PHILLIPS OIL COMPANY #19-31 RATHERFORD UNIT
510'FNL 1980'FEL Sec. 19-T41S-R24E
SAN JUAN COUNTY, UTAH

RATHERFORD UNIT #19-31

NW NE SEC. 19 T41S-R24E



1. RESERVE PIT
2. TRASH PIT
3. CIR. PITS & PUMP
4. RIG
5. CAT WALK & PIPE RACKS
6. TRAILERS

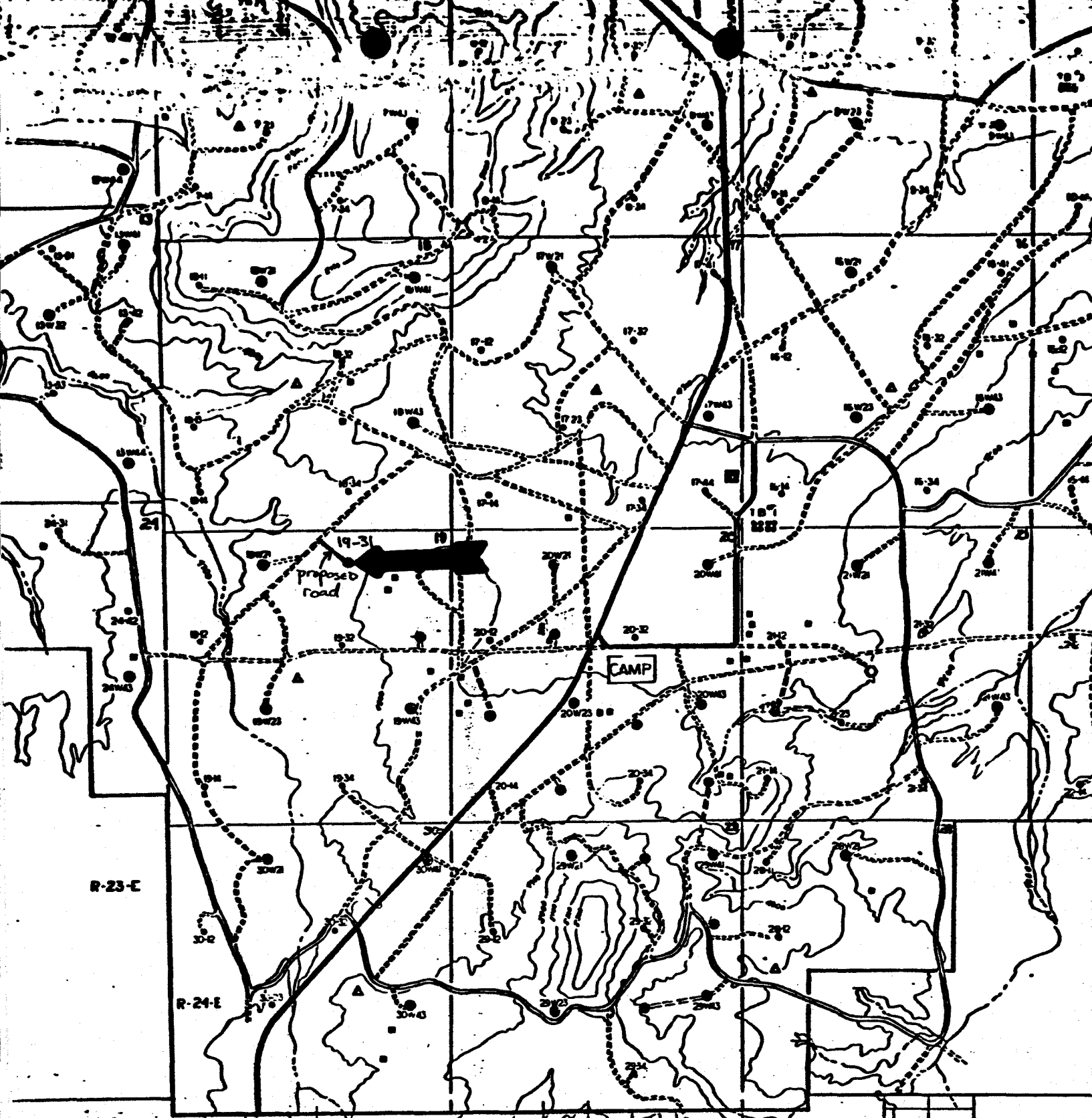
DRILLING RIG LAYOUT

OUTLINE OF LOCATION APPROXIMATELY 325' x 350'
NOT TO SCALE.

NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS	PHILLIPS PETROLEUM COMPANY BARTLESVILLE, OKLAHOMA	JA NO.	FILE CODE
FOR APPR		AFE NO.	SCALE 2.2" = 1 mi
FOR CONST	RATHERFORD UNIT WELL 19-31 PROPOSED NW NE SEC 19 T41S-R24E SAN JUAN CO., UTAH	DWG NO.	
DRAWN 3-13-84 BJM		SH NO.	
CHECKED			
APP'D			

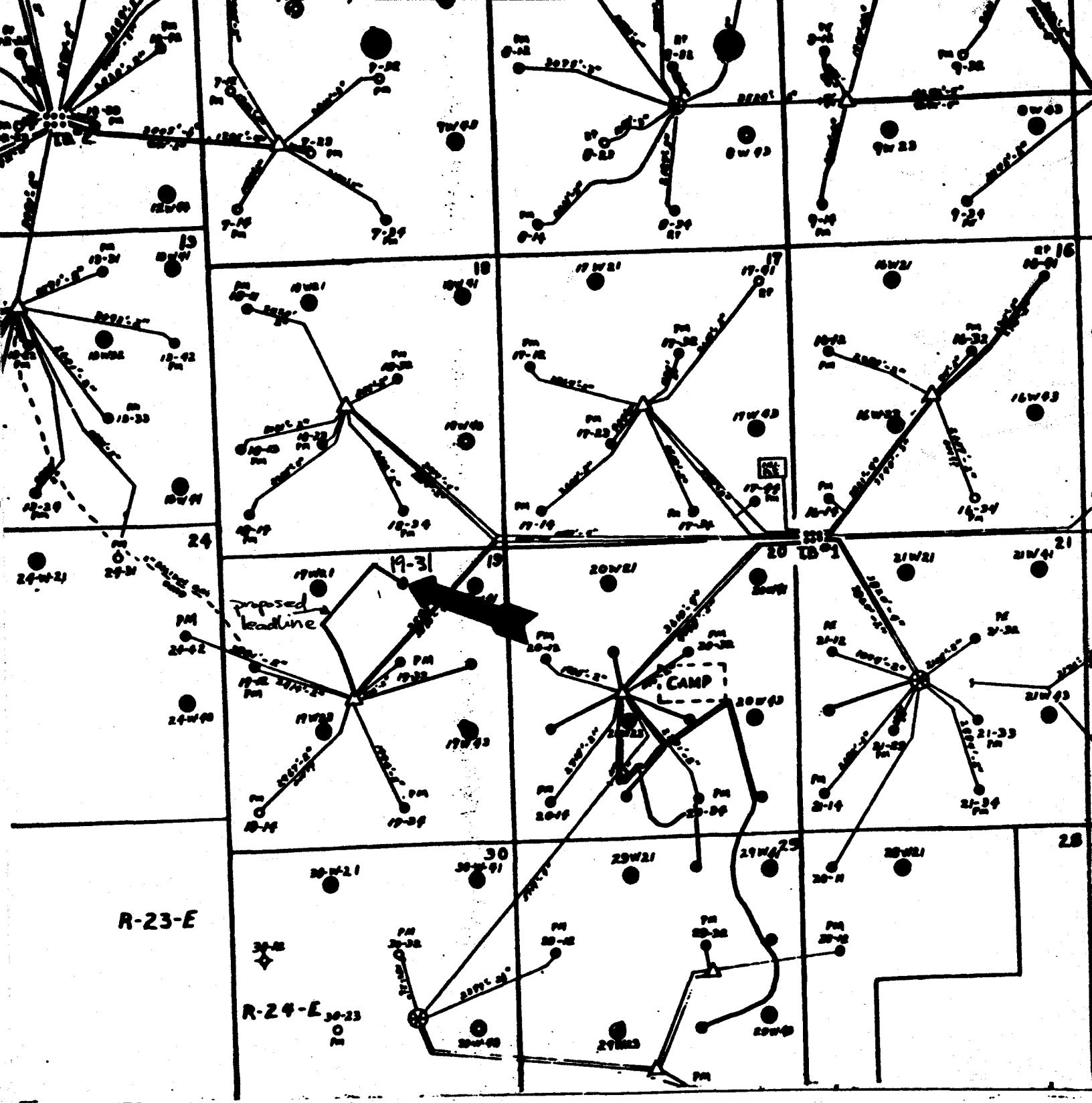
FORM 1779-6 8-81



NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS	PHILLIPS PETROLEUM COMPANY	JA NO.	FILE CODE
FOR APPR	BARTLESVILLE, OKLAHOMA	AFE NO.	SCALE 2.0" = 1 mi
FOR CONST	RATHERFORD UNIT WELL 19-31 PROPOSED ROAD PLAT NW NE SEC 19 T41S-R24E SAN JUAN CO., UTAH	DWG NO.	
DRAWN 3-13-84 BJM		SH NO.	
CHECKED			
APP'D			

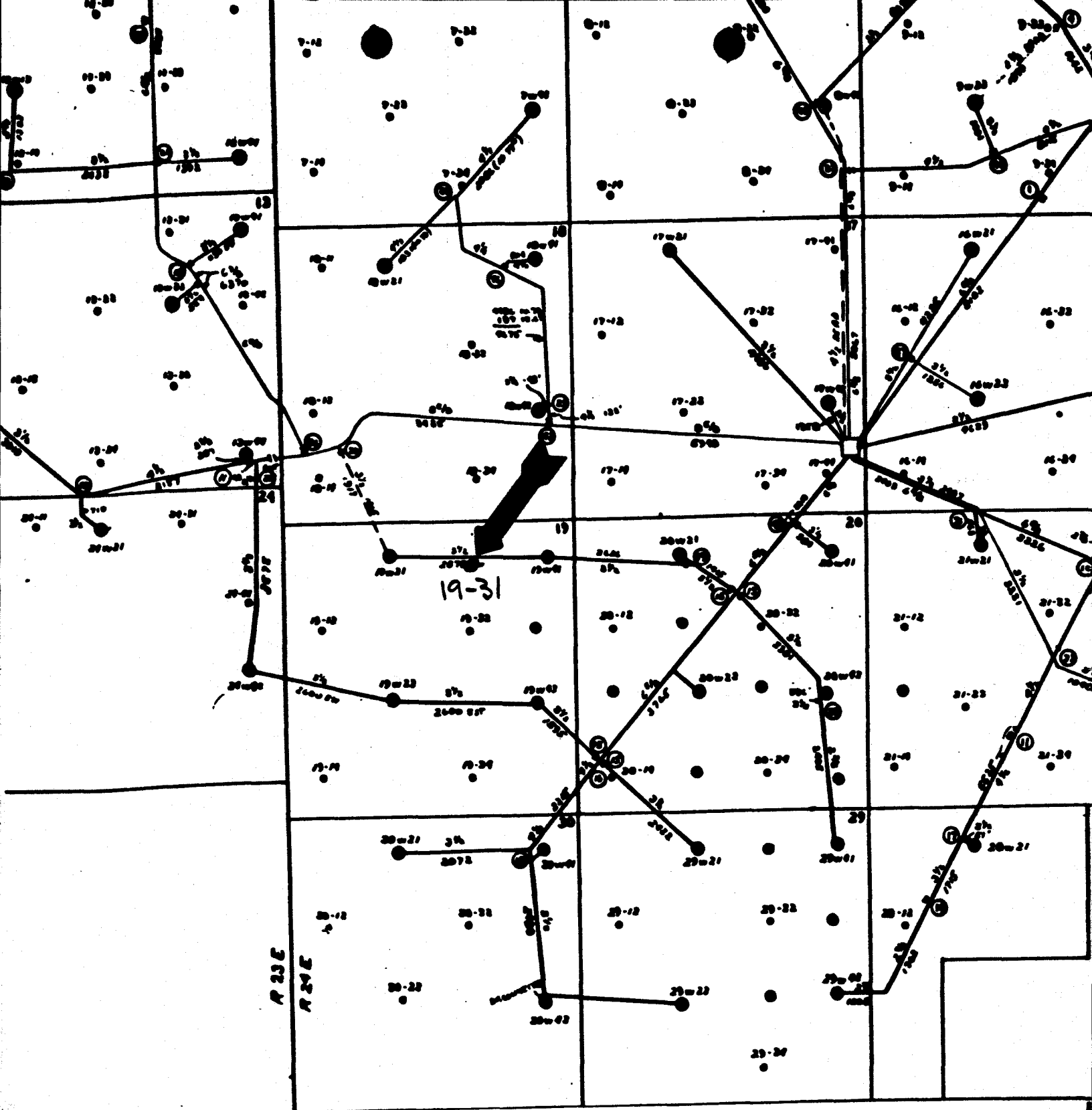
FORM 1279-S 8-81



NO.	REVISION	BY	DATE	CHKD	APP'D
1	Relocation of lead line	BJM	7-6-84		

FOR BIDS	PHILLIPS PETROLEUM COMPANY	JA NO.	FILE COD
FOR APPR	BARTLESVILLE, OKLAHOMA	AFE NO.	SCALE 2"=1
FOR CONST	RATHERFORD UNIT WELL 19-31 PROPOSED LEADLINE PLAT NW NE SEC 19 T41S-R24E SAN JUAN CO., UTAH	DWG NO.	
DRAWN 3-13-84 BJM		SH NO.	
CHECKED			
APP'D			

FORM 1779-S 8-



NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS
FOR APPR
FOR CONST

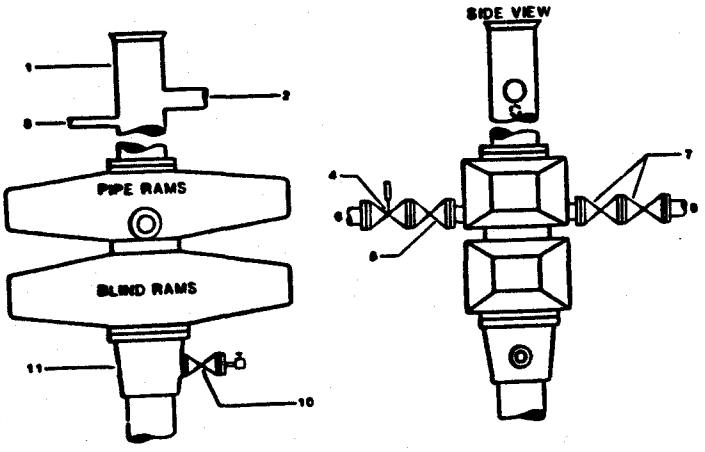
DRAWN 7-6-84 BJM
CHECKED
APP'D

PHILLIPS PETROLEUM COMPANY
BARTLESVILLE, OKLAHOMA

RATHERFORD UNIT WELL 19-31
INJECTION LINES
NW NE SEC. 19 T41S-R24E
SAN JUAN CO., UTAH

JA NO.
FILE CODE
AFE NO.
SCALE 2.2"=1mi
DWG NO.
SH NO.

FORM 1779-B 8-81



1. BELL NIPPLE
2. FLOW LINE
3. FILL-UP LINE
4. 2" FE PRESSURE-OPERATED CHOKE LINE VALVE
5. 2" FE GATE VALVE
6. 2" FE CHOKE LINE TO MANIFOLD
7. 2" FE GATE VALVES
8. 2" FE KILL LINE
10. 2" SE OR FE GATE VALVE WITH NEEDLE VALVE
11. CASING HEAD HOUSING

Figure 7-10. Standard Hydraulic Blowout Preventer Assembly (2 M or 3 M Working Pressure) Alternative 3 (without Drilling Spool)

OPERATOR Phillips Oil Co. DATE 7-17-84

WELL NAME Rutherford Unit #19-31

SEC NW NE 19 T. 41S R 24E COUNTY San Juan

43-037-31047	Indian
API NUMBER	TYPE OF LEASE

POSTING CHECK OFF:

☐ INDEX	☐ HL	☐
☐ NID	☐ PI	☐
☐ MAP	☐	☐

PROCESSING COMMENTS:

Unit well - Ø on Plan of Development

~~Water @ #32993 (Ø 284)~~

APPROVAL LETTER:

SPACING: ☑ A-3 Rutherford Unit (UNIT) ☐ c-3-a _____ (CAUSE NO. & DATE)

☐ c-3-b ☐ c-3-c

SPECIAL LANGUAGE:

1 - Water

- [x] RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.
- [x] AUTHENTICATE LEASE AND OPERATOR INFORMATION
- [x] VERIFY ADEQUATE AND PROPER BONDING
- [ ] AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.
- [ ] APPLY SPACING CONSIDERATION
  - [ ] ORDER _____
  - [x] UNIT Rutherford
  - [ ] c-3-b
  - [ ] c-3-c
- [x] CHECK DISTANCE TO NEAREST WELL.
- [ ] CHECK OUTSTANDING OR OVERDUE REPORTS FOR OPERATOR'S OTHER WELLS.
- [x] IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER
- [x] IF IN OIL SHALE DESIGNATED AREA, SPECIAL APPROVAL LANGUAGE.

July 27, 1984

Phillips Oil Company
P. O. Box 2920
Casper, Wyoming 82602

RE: Well No. Ratherford Unit 19-31
NWNE Sec. 19, T. 41S, R. 24E
510' FNL, 1980, FEL
San Juan County, Utah

Gentlemen:

Approval to drill the above referenced oil well is hereby granted in accordance with Section 40-6-18, Utah Code Annotated, as amended 1983; and predicated on Rule A-3, General Rules and Regulations and Rules of Practice and Procedure, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 533-5771, (Home) 298-7695 or R. J. Firth, Associate Director, (Home) 571-6068.

4. Compliance with the requirements and regulations of Rule C-27, Associated Gas Flaring, General Rules and Regulations, Oil and Gas Conservation.

5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31047.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

RJF/ss

cc: Branch of Fluid Minerals
Bureau of Indian Affairs

Enclosures

9-331
1973

RECEIVED

OCT 31 1984

DIVISION OF OIL GAS & MINING

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR
Phillips Oil Company

3. ADDRESS OF OPERATOR
8055 E. Tufts Ave. Pkwy. Pkwy., Denver, CO 80237

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 510' FNL, 1980' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
14-20-603-407

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME
SW-I-4192

8. FARM OR LEASE NAME
Ratherford Unit

9. WELL NO.
#19-31

10. FIELD OR WILDCAT NAME
Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 19, T41S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. API NO.
43-037-31047

15. ELEVATIONS (SHOW DF, KDB, AND WD)
4763' GL

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]
(other)			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Drilled 17½" conductor hole to 122'. Ran 121.1' of 13-3/8" 54.5# K-55 Buttress conductor casing. Set casing @ 121' GL, cemented with 177 cu.ft.(150 sx) Class B, cemented to surface. Finished job and moved out rat hole driller 9-6-84.

Spudded well with Energy Search Drlg Rig #1 on 9-17-84. Drilled 12¼" hole to 1615' RKB. Ran 1615' of 9-5/8" 36# K-55 ST&C surface csg. Cemented with 725 cu.ft. (300 sx) Class B w/20% Diacel D; tailed with 354 cu.ft.(300 sx) Class B and circulated to surface. Job complete 9-19-84.

Drilled 8-3/4" hole to 5604'. Ran 5604' of 7" 23# & 26# K-55 & N-80 LT&C casing, cemented with 1144 cu.ft.(400 sx) Class B w/20% Diacel D; tailed with 360 cu.ft. (300 sx) Class B w/18% salt. Pressure tested casing to 1500 psi. Job complete 10-4-84. Plug back total depth 5578'.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Drilling Manager DATE 10-25-84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

6 - BLM, Farmington, NM
2 - Utah O&GCC, SLC
1 - Casper
1 - File (RC)
1 - J. Weichbrodt

*See Instructions on Reverse Side

Form 3160-4
(November 1983)
(formerly 9-330)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo
7. UNIT AGREEMENT NAME: SW-I-4192
8. FARM OR LEASE NAME: Ratherford Unit
9. WELL NO.: 19-31
10. FIELD AND POOL, OR WILDCAT: Greater Aneth
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 19-T41S-R24E

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR: Phillips Oil Company

3. ADDRESS OF OPERATOR: P. O. Box 2920, Casper, Wyoming 82602

RECEIVED
NOV 02 1984
DIVISION OF OIL GAS & MINING

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 510' FNL & 1980' FEL, NW NE
At top prod. interval reported below
At total depth

API #43-037-31047

14. PERMIT NO.: 43-037-31047 DATE ISSUED: 7-27-84
12. COUNTY OR PARISH: San Juan
13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
9/17/84	10/2/84	10/16/84	GR 4763', RKB 4776.5'	--

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
5604'	5578'	--	→	0 - 5604'	--

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 5550' - 5556' Desert Creek Zone I

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: DLL, MSGL, FDC-CNL, MCL CAL

27. WAS WELL CORED: Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.5#	121'	17-1/2"	76 cu.ft. Class "B"	--
9-5/8"	36#	1615'	12-1/4"	1074 cu.ft. Class "B"	--
7"	23# & 26#	5604'	8-3/4"	1314 cu.ft. Class "B"	--

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
--	--	--	--	--

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	4788'	4788'

31. PERFORATION RECORD (Interval, size and number)
5550-5556', 4 SPF, 4" Hollow Steel Carrier Gun, 24 holes

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5550-5556'	Acidized w/1000 gal 28% FE Acid w/2.5 gal/1000 HC-2, 4 gal/1000 Lo-Surf and 2 gal/1000 HAI-60.

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
10/16/84	Swabbing - Upper Interval To Be Perforated	Shut-in

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
10/23/84	Swbd 24 hrs	--	→	44	no test	0	--

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
--	--	→	44	no test	0	40.0

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): --
TEST WITNESSED BY: --

35. LIST OF ATTACHMENTS: --

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED: R. A. E. Stuart TITLE: Area Manager DATE: October 30, 1984

SEE BACK FOR DIST. *(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
CORE #1	5480	5491	Cut 11', recovered 5.5' - lime w/stain in fractures.
CORE #2	5491	5546	Cut and recovered 55'.
CORE #3	5546	5604	Cut 58', recovered 56'.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
LOG TOPS		
Shinarump	2296'	
DeChelly	2614'	
Hermosa	4528'	
Desert Creek	5529'	

Orig & 3 - BLM, Farmington, NM
2 - UTAH O&G CC, Salt Lake City, UT
1 - The Navajo Nation, Window Rock, AZ
1 - B. A. Conner, B'Ville
1 - L. R. Williamson, Denver
1 - R. M. Coffelt, Denver
1 - O. G. Poling, Denver
1 - D. L. Fraser, Denver
1 - Working Interest Owners
1 - P. J. Adamson, Casper
1 - File RC

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

January 10, 1985

Phillips Oil Company
P O Box 2920
Casper, Wyoming 82602

Gentlemen:

Re: Well No. Ratherford Unit #19-31 - Sec. 19, T. 41S., R. 24E.
San Juan County, Utah - API 43-037-31047

According to our records, a "Well Completion Report" filed with this office October 30, 1984 on the above referred to well, indicates the following electric logs were run: DLL, MSGL, FDC-CNL and MCL. This office has received a Cement Bond Log but has not yet received these logs.

Please take care of this matter as soon as possible, but not later than February 10, 1985.

Your cooperation in this matter is appreciated.

Sincerely,

Claudia L. Jones

Claudia L. Jones
Well Records Specialist

cc: Dianne R. Nielson
Ronald J. Firth
John R. Baza
File
0009S/14

PHILLIPS OIL COMPANY
A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY
DENVER, COLORADO 80237-2898
8055 EAST TUFTS AVENUE PARKWAY

DATA TRANSMITTAL

TO: Div. of Oil, Gas and Mining
355 W. North Temple
#3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

February 4, 1985

RE: Ratherford Unit

ENCLOSED PLEASE FIND COPIES OF THE FOLLOWING:

1. _____ Approved Well Permit
2. _____ Core Analysis/Core Description
3. _____ DST Chart/DST Report # _____
4. _____ Fluid Analysis (Gas, Water, Oil)
5. _____ Geological Prognosis and Drilling Program
6. _____ Geological Well Report
7. _____ Survey Plat
8. _____ Well Completion Report
9. _____ Well History
10. _____ Well Permit Application
11. _____ LOGS (Field Prints) _____ RUN # _____ DATE: _____
12. X LOGS (Final Prints) _____ RUN # _____ DATE: _____

4/5/24E21 Rathford Unit 21-11 DLL FDC-CNL
19 " 19-31 " " MEL

PLEASE ACKNOWLEDGE RECEIPT BY SIGNING AND RETURNING THE ENCLOSED COPY TO THE ABOVE ADDRESS. THANK YOU.

ATTN. L. KAWE

R. M. Coffelt
Manager, Geological Development
Western Division

RECEIVED BY: Copy sent 2-8-85 S. Sorela DATE: _____

EGD.P36-2

(November 1983)
(formerly 9-330)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Budget Bureau No. 1004-0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo

7. UNIT AGREEMENT NAME: SW-I-4192

8. FARM OR LEASE NAME: Ratherford Unit

9. WELL NO.: 19-31

10. FIELD AND POOL, OR WILDCAT: Creater Aneth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 19-T41S-R24E

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [X] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other: Perf Upper Interval

2. NAME OF OPERATOR: Phillips Oil Company

Initial 3160-4 Submitted 10/30/84

3. ADDRESS OF OPERATOR: P. O. Box 2920, Casper, Wyoming 82602

RECEIVED
FEB 19 1985
DIVISION OF OIL GAS & MINING

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 510' FNL & 1980' FEL, NW NE
At top prod. interval reported below
At total depth

14. PERMIT NO.: 43037_31047 (API #43-037-31047) — 7-27-84

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
9/17/84	10/2/84	10/16/84	GR 4763', RKB 4776.5'	--

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
5604'	5578'	--	→	0 - 5604'	--

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 5536' - 5556' Desert Creek Zone I

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: (DLL, MSGL, CDC-CNL, MCL) (WEL)

27. WAS WELL CORED: Yes

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.5#	121'	17-1/2"	76 cu.ft. Class "B"	--
9-5/8"	36#	1615'	12-1/4"	1074 cu.ft. Class "B"	--
7"	23# & 26#	5604'	8-3/4"	1314 cu.ft. Class "B"	--

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
--	--	--	--	--

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	4788'	--

31. PERFORATION RECORD (*Interval, size and number*)
5536-5550', 2 SPF, 4" HSC Gun, 28 shots
5550-5556', 4 SPF, 4" HSC Gun, 24 shots

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5550-5556'	Acidized w/1000 gal 28% FE Acid, w/2-1/2 gal/1000 HC-2, 4 gal/1000 Lo-Surf 259 & 2 gal/1000 HAI-60. (CONTINUED ON BACK)

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
10/16/84	Started Pumping 1/26/85 - 1-3/4"	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
2/5/85	24	--	→	92	37	16	402

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
125	--	→	92	37	16	40.0

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*): Sold

TEST WITNESSED BY: --

35. LIST OF ATTACHMENTS: None

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED: A. E. Stuart TITLE: Area Manager DATE: February 13, 1985

DISTRIBUTION ON BACK*

(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
#32 CONTINUED -						
Interval	Amount & Kind of Material Used			LOG TOPS		
5536-5550' -	Acidized w/1000 gal 28% FE Acid w/2-1/2 gal/1000 HC-2, 2 gal/1000 HAI-60 and 4 gal/1000 Lo-Surf 259. Break down in 1' intervals. Pmpd 2000 gal acid at 1800 psi, 3 BPM. Drop 20, 1.1 sp grav, ball sealers in 1st 100 gal then 57 more evenly spaced thru out acid. Balled off three times.			Shinarump	2296'	
				DeChelly	2614'	
				Hermosa	4528'	
				Desert Creek	5529'	
Core #1	5480	5491	Cut 11', rec 5.5', lime w/stain in fractures			
Core #2	5491	5546	Cut and rec 55'			
Core #3	5546	5604	Cut 58', rec 56'.			

Distribution -
4 - BLM, Farmington, NM
2 - Utah O&G CC, Salt Lake City, UT
1 - The Navajo Nation, Window Rock, AZ
1 - B. A. Conner, B'Ville
1 - L. R. Williamson (r) G. W. Berk, Denver
1 - R. M. Coffelt (r) Pat Bertuzzi, Denver
1 - D. L. Fraser, Denver
1 - O. G. Poling, Denver
1 - W. I. Owners
1 - P. J. Adamson
1 - File RC

FORM 10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

P J KONKEL
PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON NM 87401

RECEIVED
AUG 16 1993
DIVISION OF
OIL, GAS & MINING

OPERATOR ACCOUNT NUMBER: N0772

REPORT PERIOD (MONTH/YEAR): 6 / 93

AMENDED REPORT ☐ (Highlight Changes)

Well Name / API Number	Entity	Location	Producing Zone	Well Status	Days Oper	Production Volumes OIL(BBL)	GAS(MCF)	WATER(BBL)
#21-23 4303713754	06280	41S 24E 21	DSCR	POW	29	1374	883	58
#3-44 4303715031	06280	41S 24E 3	DSCR	POW	30	111	94	2905
#3-14 4303715124	06280	41S 24E 3	DSCR	POW	30	67	23	302
#9-12 4303715126	06280	41S 24E 9	DSCR	POW	30	112	654	17363
#9-14 4303715127	06280	41S 24E 9	DSCR	POW	30	201	315	423
#28-12 4303715336	06280	41S 24E 28	PRDX	POW	29	112	47	2428
#29-12 4303715337	06280	41S 24E 29	PRDX	POW	29	56	0	672
#29-32 4303715339	06280	41S 24E 29	DSCR	POW	29	1402	287	2224
#29-34 4303715340	06280	41S 24E 29	DSCR	POW	29	757	48	0
#30-32 4303715342	06280	41S 24E 30	DSCR	POW	29	588	1049	3744
#3-12 4303715620	06280	41S 24E 3	DSCR	POW	30	268	11	363
#9-34 4303715711	06280	41S 24E 9	DSCR	POW	30	45	46	9800
#10-12 4303715712	06280	41S 24E 10	DSCR	POW	30	45	23	1088
					TOTALS	5138	3480	41370

COMMENTS: Effective July 1, 1993, Phillips Petroleum Company has sold its interest in the Ratherford Unit to Mobil Exploration and Producing U.S., Incorporated, P. O. Box 633, Midland, Texas 79702. Mobil assumed operations on July 1, 1993.

I hereby certify that this report is true and complete to the best of my knowledge. Date: 8/11/93

Name and Signature: PAT KONKEL Pat Konkel Telephone Number: 505 599-3452

(6/93)

FORM 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION & SERIAL NO.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO TRIBAL

1. OIL WELL ☐ GAS WELL ☐ OTHER

7. UNIT AGREEMENT NAME: RATHERFORD UNIT

2. NAME OF OPERATOR: MOBIL OIL CORPORATION

8. FARM OR LEASE NAME

3. ADDRESS OF OPERATOR: P. O. BOX 633 MIDLAND, TX 79702

9. WELL NO.

RECEIVED
SEP 13 1993
DIVISION OF
OIL, GAS & MINING

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface

At proposed prod. zone

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

14. API NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY	13. STATE
		SAN JUAN	UTAH

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) CHANGE OF OPERATOR			
(Other)				(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

APPROX. DATE WORK WILL START _____

DATE OF COMPLETION _____

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

* Must be accompanied by a cement verification report.

AS OF JULY1, 1993, MOBIL OIL CORPORATION IS THE OPERATOR OF THE RATHERFORD UNIT. ATTACHED ARE THE INDIVIDUAL WELLS.

18. I hereby certify that the foregoing is true and correct

SIGNED Shirley Todd TITLE ENV. & REG TECHNICIAN DATE 9-8-93

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

See Instructions On Reverse Side

(3/89)

19W-21	43-037-15741	14-20-603-353	SEC. 19, T41S, R24E	NE/NW 660' FNL 1860' FWL
19-22	43-037-31046	14-20-603-353	SEC. 19, T41S, R24E	SE/NW 1840' FNL; 1980' FWL
19W-23	43-037-15742	14-20-603-353	SEC. 19, T41S, R24E	NE/SW 2080' FSL; 1860' FWL
19-31	43-037-31047	14-20-603-353	SEC. 19, T41S, R24E	NW/NE 510' FNL; 1980' FEL
19-32	43-037-15743	14-20-603-353	SEC. 19, T41S, R24E	SW/NE 1980' FNL; 1980' FEL
19-33	43-037-31048	14-20-603-353	SEC. 19, T41S, R24E	NW/SE 1980' FSL; 1980' FEL
19-34	43-037-15744	14-20-603-353	SEC. 19, T41S, R24E	SW/SE 660' FSL; 1980' FEL
19W-41	43-037-15745	14-20-603-353	SEC. 19, T41S, R24E	NE/NE 660' FNL; 660' FEL
19-42	43-037-30916	14-20-603-353	SEC. 19, T41S, R24E	SE/NE 1880' FNL, 660' FEL
19W-43	43-037-16420	14-20-603-353	SEC. 19, T41S, R24E	NE/SE 1980' FSL; 760' FEL
19-44	43-037-31081	14-20-603-353	SEC. 19, T41S, R24E	SE/SE 660' FSL; 660' FEL
19-97	43-037-31596	14-20-603-353	SEC. 19, T41S, R24E	2562' FNL, 30' FEL
20-11	43-037-31049	14-20-603-353	SEC. 20, T41S, R24E	NW/NW 500' FNL; 660' FWL
20-12	43-037-15746	14-20-603-353	SEC. 20, T41S, R24E	1980' FNL, 660' FWL
20-13	43-037-30917	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 2140' FSL, 500' FWL
20-14	43-037-15747	14-20-603-353	SEC. 20, T41S, R24E	660' FSL; 660' FWL
20W-21	43-037-16423	14-20-603-353	SEC. 20, T41S, R24E	660' FNL; 1880' FWL
20-22	43-037-30930	14-20-603-353	SEC. 20, T41S, R24E	SE/NW 2020' FNL; 2090' FWL
20W-23	43-037-15748	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 2080; 2120' FWL
20-24	43-037-30918	14-20-603-353	SEC. 20, T41S, R24E	SE/SW 820' FSL; 1820' FWL
20-31	43-037-31050	14-20-603-353	SEC. 20, T41S, R24E	NW/NE 660' FNL; 1880' FEL
20-32	43-037-15749	14-20-603-353	SEC. 20, T41S, R24E	SW/NE 1980' FNL, 1980' FEL
20-33	43-037-30931	14-20-603-353	SEC. 20, T41S, R24E	NW/SE 1910' FSL; 2140' FEL
20-34	43-037-15750	14-20-603-353	SEC. 20, T41S, R24E	660' FSL; 1850' FEL
20W-41	43-037-15751	14-20-603-353	SEC. 20, T41S, R24E	NE/NE 660' FNL; 660' FEL — PA'd
20-42	43-037-31051	14-20-603-353	SEC. 20, T41S, R24E	SE/NE 1980 ' FNL; 660' FEL
20W-43	43-037-16424	14-20-603-353	SEC. 20, T41S, R24E	2070' FSL; 810' FEL
20-44	43-037-30915	14-20-603-353	SEC. 20, T41S, R24E	SE/SE 620' FSL; 760' FEL
20-66	43-037-31592	14-20-603-353	SEC. 20, T41S, R24E	SW/NW 1221' FWL; 1369' FNL
21-11	43-037-31052	14-20-603-355	SEC. 21, T41S, R24E	NW/NW 660' FNL; 660 FWL
21-12	43-037-15752	14-20-603-355	SEC. 21, T41S, R24E	2080' FNL; 660' FWL
21-13	43-037-30921	14-20-603-355	SEC. 21, T41S, R24E	NW/SW 2030' FSL; 515' FWL
21-14	43-037-15753	14-20-603-355	SEC. 21, T41S, R24E	SW/SW 660' FSL; 460' FWL
21W-21	43-037-16425	14-20-603-355	SEC. 21, T41S, R24E	NE/NW 660' FNL; 2030' FWL
21-32	43-037-15755	14-20-603-355	SEC. 21, T41S, R24E	SW/NE 1880' FNL; 1980' FEL
~~21-33~~	~~NA~~	~~14-20-603-355~~	~~SEC. 21, T41S, R24E~~	~~2000 FSL; 1860' FEL~~
21-34	43-037-15756	14-20-603-355	SEC. 21, T41S, R24E	SW/SE 660' FSL; 1980' FEL
21W-41	43-037-16426	14-20-603-355	SEC. 21, T41S, R24E	660' FNL; 810' FEL — PA'd
21W-43	43-037-16427	14-20-603-355	SEC. 21, T41S, R24E	NE/NE 1980' FSL; 660' FEL
24-11	43-037-15861	14-20-603-247A	SEC. 24, T41S, R24E	510' FNL; 810' FWL — PA'd
24W-21	43-037-16429	14-20-603-247	SEC. 24, T41S, R24E	4695' FSL; 3300' FEL — PA'd
24W-43	43-037-16430	14-20-603-247	SEC. 24, T41S, R24E	2080' FSL; 660' FEL
24-31W	43-037-15862	14-20-603-247A	SEC. 24, T41S, R24E	NW/NE 560' FNL; 1830' FEL
24-32	43-037-31593	14-20-603-247A	SEC. 24, T41S, R24E	SW/NE 2121' FNL; 1846' FEL
24-41	43-037-31132	14-20-603-247A	SEC. 24, T41S, R24E	NE/NE 660' FNL; 710' FEL
24W-42	43-037-15863	14-20-603-247A	SEC. 24, T41S, R24E	660' FSL; 1980' FNL
28-11	43-037-30446	14-20-603-409	SEC. 28, T41S, R24E	NW/NW 520' FNL; 620' FWL
28-12	43-037-15336	14-20-603-409B	SEC. 28, T41S, R24E	SW/SE/NW 2121' FNL; 623' FWL
29-11	43-037-31053	14-20-603-407	SEC. 29, T41S, R24E	NW/NW 770' FNL; 585' FWL
29W-21	43-037-16432	14-20-603-407	SEC. 29, T41S, R24E	NE/NW 667' FNL; 2122' FWL
29-22	43-037-31082	14-20-603-407	SEC. 29, T41S, R24E	SE/NW 2130' FNL; 1370' FWL
29W-23	43-037-15338	14-20-603-407	SEC. 29, T41S, R24E	NE/SW 1846' FSL; 1832' FWL
29-31	43-037-30914	14-20-603-407	SEC. 29, T41S, R24E	NW/NE 700' FNL; 2140' FEL
29-32	43-037-15339	14-20-603-407	SEC. 29, T41S, R24E	1951' FNL; 1755' FEL
29-33	43-037-30932	14-20-603-407	SEC. 29, T41S, R24E	NW/SE 1860' FSL; 1820' FEL
29-34	43-037-15340	14-20-603-407	SEC. 29, T41S, R24E	817 FSL; 2096' FEL
29W-41	43-037-16433	14-20-603-407	SEC. 29, T41S, R24E	557' FNL; 591' FEL
29W-42	43-037-30937	14-20-603-407	SEC. 29, T41S, R24E	SE/NE 1850' FNL; 660' FEL
29W-43	43-037-16434	14-20-603-407	SEC. 29, T41S, R24E	NE/SE 1980' FSL; 660' FEL
30-21W	43-037-16435	14-20-603-407	SEC. 30, T41S, R24E	660' FNL; 1920' FWL
30-32	43-037-15342	14-20-603-407	SEC. 30, T41S, R24E	SW/NE 1975' FNL; 2010' FEL
30W-41	43-037-15343	14-20-603-407	SEC. 30, T41S, R24E	NE/NE 660' FNL; 660' FEL
9-34	NA 43037157II	NA 14206034043	NA Sec. 9, T. 41S, R. 24E	NA SWSE 660'FSL 1980 FEL
12-43	43-307-31202	14-20-603-246	SEC. 12. T41S. R23E	2100' FSL;660 FEL
12W31	43-037-15847	14-20-603-246	SEC. 12, T41S, R23E	661' FNL;, 1981' FEL
13W24	43-037-15853	14-20-603-247	SEC. 13, T41S, R23E	SE/SW 660' FSL;3300'FEL
15W23	43-037-16412	14-20-603-355	SEC. 15, T41S, R24E	2140' FSL;1820' FWL
17-24	43-037-31044	14-20-603-353	SEC. 17, T41S, R24E	SE/SW 720' FSL; 1980' FWL
18-13	43-037-15734	14-20-603-353	SEC. 18, T41S, R24E	NW/NW 1980' FSL;500' FWL
18W32	43-037-15736	14-20-603-353	SEC. 18, T41S, R24E	SW/NE2140'FNL;1830' FEL
20-68	43-037-31591	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 1276' FWL;1615' FSL
21-23	43-037-13754	14-20-603-355	SEC. 21, T41S, R24E	NE/SW 1740 FSL 1740 FWL
28W21	43-037-16431	14-20-603-409	SEC.29, T41S, R24E	660' FNL; 2022' FWL

FORM 11

STATE OF UTAH
/ISION OF OIL, GAS AND MINING

MONTHLY OIL AND GAS DISPOSITION REPORT

OPERATOR NAME AND ADDRESS:

L. Sheffield
~~BRIAN BERRY~~
~~M E P N A~~ MOBIL
~~POB 219031 1807A RENTWR~~ P.O. DRAWER G
DALLAS TX 75221-9031 CORTEZ, Co. 81321

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 7 / 93

AMENDED REPORT ☐ **(Highlight Changes)**

*93100le updated. fec

ENTITY NUMBER	PRODUCT	GRAVITY BTU	BEGINNING INVENTORY	VOLUME PRODUCED	DISPOSITIONS TRANSPORTED	DISPOSITIONS USED ON SITE	DISPOSITIONS FLARED/VENTED	DISPOSITIONS OTHER	ENDING INVENTORY
05980	OIL			177609	177609	0			
	GAS			72101	66216	5885			
11174	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
TOTALS				249710	243825	5885			

RECEIVED
SEP 13 1993
DIVISION OF
OIL, GAS & MINING

COMMENTS: PLEASE NOTE ADDRESS CHANGE. MOBIL ~~E&P~~ PRODUCTION REPORTS WILL BE COMPILED AND SENT FROM THE CORTEZ, Co. OFFICE IN THE FUTURE.

I hereby certify that this report is true and complete to the best of my knowledge.

Date: 9/6/93

Name and Signature: Lowell B Sheffield

Telephone Number: 303 565 2212 ~~214 658 2528~~

(6/93)

FORM=NR0003.FRM 07/2

Sept 29, 1993

TO: Lisha Cordova - Utah Mining Oil & Gas

FROM: Janice Easley
BLM Farmington, NM
505 599-6355

Here is Copy of Ratherford Unit Successor Operator.

4 pages including this one.

Ratherford Unit (GC)

Navajo Area Office
P. O. Box 1060
Gallup, New Mexico 87305-1060

ARES/543

JUL 26 1993

Mr. G. D. Cox
Mobil Exploration and
Producing North America, Inc.
P. O. Box 633
Midland, Texas 79702

Dear Mr. Cox:

Enclosed for your information and use is the approved Designation of Operator between the Phillips Petroleum Company and Mobil Exploration and Producing North America, Inc. for the Ratherford Unit.

Please note that all other concerned parties will be furnished their copy of the approved document.

Sincerely,

ACTING Area Director

Enclosure

cc: Bureau of Land Management, Farmington District Office w/enc.
TNN, Director, Minerals Department w/enc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

DESIGNATION OF OPERATOR

Phillips Petroleum Company is, on the records of the Bureau of Indian Affairs, operator of the Ratherford Unit,

AREA OFFICE: Window Rock, Arizona
LEASE NO: Attached hereto as Exhibit "A"

and, pursuant to the terms of the Ratherford Unit Agreement, is resigning as Unit Operator effective July 1, 1993, and hereby designates

NAME: Mobil Exploration and Producing North America Inc., duly elected pursuant to the terms of the Ratherford Unit Agreement,

ADDRESS: P. O. Box 633, Midland, Texas 79702
Attn: G. D. Cox

as Operator and local agent, with full authority to act on behalf of the Ratherford Unit lessees in complying with the terms of all leases and regulations applicable thereto and on whom the authorized officer may serve written or oral instructions in securing compliance with the Operating Regulations (43 CFR 3160 and 25 CFR 211 and 212) with respect to (described acreage to which this designation is applicable):

Attached hereto as Exhibit "A"

Bond coverage under 25 CFR 211, 212 or 225 for lease activities conducted by the above named designated operator is under Bond Number 05202782 (attach copy). Evidence of bonding is required prior to the commencement of operations.

It is understood that this designation of operator does not relieve any lessee of responsibility for compliance with the terms of the leases and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the leases.

In case of default on the part of the designated operator, the lessees will make full and prompt compliance with all regulations, lease terms, stipulations, or orders of the Secretary of the Interior or his representative.

Attached is the appropriate documentation relevant to this document.

The designated operator agrees to promptly notify the authorized officer of any change in the operatorship of said Ratherford Unit.

Phillips Petroleum Company

June 17, 1993

By: M. B. Fuller, Jr.
Attorney-in-Fact

Mobil Exploration and Producing
North America Inc.

June 11, 1993

By: B. D. Martiny
Attorney-in-Fact B.D. MARTINY

ACTING AREA DIRECTOR 7/9/93
APPROVED BY TITLE DATE

APPROVED PURSUANT, TO SECRETARIAL REDELEGATION ORDER 209 DM 8 AND 230 DM 3.
This form does not constitute an information collection as defined by 44 U.S.C. 3502 and therefore does not require OMB approval.

EXHIBIT "A"

ATTACHED TO AND MADE A PART OF DESIGNATION OF SUCCESSOR OPERATOR, RATHERFORD UNIT

EXHIBIT "C"

Revised as of September 29, 1992)
SCHEDULE OF TRACT PERCENTAGE PARTICIPATION

Tract Number	Description of Land	Serial Number and Effective Date of Lease	Tract Percentage Participation
1	S/2 Sec. 1, E/2 SE/4 Sec. 2, E/4 Sec. 11, and all of Sec. 12, T-41-S, R-23-E, S.L.M. San Juan County, Utah	14-20-603-246-A Oct. 5, 1953	11.0652565
2	SE/4 and W/2 SW/4 Sec. 5, the irregular SW/4 Sec. 6, and all of Sec. 7 and 8, T-41-S, R-24-E, San Juan County, Utah	14-20-603-368 Oct. 26, 1953	14.4159942
3	SW/4 of Sec. 4, T-41-S, R-24-E, San Juan County, Utah	14-20-603-5446 Sept. 1, 1959	.5763826
4	SE/4 Sec. 4, and NE/4 Sec. 9, T-41-S, R-24-E, San Juan County, Utah	14-20-603-4035 March 3, 1958	1.2587779
5	SW/4 of Sec. 3, T-41-S, R-24-E, S.L.M., San Juan County, Utah	14-20-603-5445 Sept. 3, 1959	.4667669
6	NW/4 of Sec. 9, T-41-S, R-24-E, S.L.M., San Juan County, Utah	14-20-603-5045 Feb. 4, 1959	1.0187043
7	NW/4, W/2 NE/4, and SW/4 Sec. 10, SE/4 Sec. 9, T-41-S, R-24-E, San Juan County, Utah	14-20-603-4043 Feb. 18, 1958	3.5097575
8	SW/4 Sec. 9, T-41-S, R-24-E, S.L.M. San Juan County, Utah	14-20-603-5046 Feb. 4, 1959	1.1141679
9	SE/4 Sec. 10 and S/2 SW/4 Sec. 11 T-41-S, R-24-E, San Juan County, Utah	14-20-603-4037 Feb. 14, 1958	2.6186804
10	All of Sec. 13, E/2 Sec. 14, and E/2 SE/4 and N/2 Sec. 24, T-41-S, R-23-E, S.L.M., San Juan County, Utah	14-20-603-247-A Oct. 5, 1953	10.3108861
11	Sections 17, 18, 19 and 20, T-41-S, R-24-E, San Juan County Utah	14-20-603-353 Oct. 27, 1953	27.3389265
12	Sections 15, 16, 21, and NW/4, and W/2 SW/4 Sec. 22, T-41-S, R-24-E, San Juan County, Utah	14-20-603-355 Oct. 27, 1953	14.2819339
13	W/2 Section 14, T-41-S, R-24-E, San Juan County, Utah	14-20-603-370 Oct. 26,1953	1.8500847
14	N/2 and SE/4, and E/2 SW/4 Sec. 29, NE/4 and E/2 SE/4 and E/2 W/2 irregular Sec. 30, and E/2 NE/4 Sec. 32, T-41-S, R-24-E, San Juan County, Utah	14-20-603-407 Dec. 10, 1953	6.9924969
15	NW/4 Sec. 28, T-41-S, R24-E San Juan County, Utah	14-20-603-409 Dec. 10, 1953	.9416393
16	SE/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6504 July 11, 1961	.5750254
17	NE/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6505 July 11, 1961	.5449292
18	NW/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6506 July 11, 1961	.5482788
19	NE/4 Sec. 4, T-41-S, R24-E San Juan County, Utah	14-20-0603-7171 June 11, 1962	.4720628
20	E/2 NW/4 Sec. 4, T-41-S, R-24-E San Juan County, Utah	14-20-0603-7172 June 11, 1962	.0992482
100% Indian Lands	TOTAL 12,909.74		100.0000000

Division of Oil, Gas and Mining

PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

[ ] Well File _____

_____

(Location) Sec___Twp___Rng___

(API No.) _____

[ ] Suspense

(Return Date) _____

(To - Initials) _____

XXX Other

OPERATOR CHANGE

_____

_____

1. Date of Phone Call: 10-6-93 Time: 9:30

2. DOGM Employee (name) L. CORDOVA (Initiated Call XXX)

Talked to:

Name GLEN COX (Initiated Call [ ]) - Phone No. (915)688-2114

of (Company/Organization) MOBIL

3. Topic of Conversation: OPERATOR CHANGE FROM PHILLIPS TO MOBIL "RATHERFORD UNIT".

(NEED TO CONFIRM HOW OPERATOR WANTS THE WELLS SET UP - MEPNA AS PER BIA APPROVAL OR MOBIL OIL CORPORATION AS PER SUNDRY DATED 9-8-93?)

4. Highlights of Conversation:

MR. COX CONFIRMED THAT THE WELLS SHOULD BE SET UNDER ACCOUNT N7370/MEPNA AS PER BIA APPROVAL, ALSO CONFIRMED THAT PRODUCTION & DISPOSITION REPORTS WILL NOW BE HANDLED OUT OF THEIR CORTEZ OFFICE RATHER THAN DALLAS.

MEPNA-

PO DRAWER G

CORTEZ, CO 81321

(303)565-2212

*ADDRESS CHANGE AFFECTS ALL WELLS CURRENTLY OPERATORED BY MEPNA, CURRENTLY REPORTED OUT OF DALLAS (MCELMO CREEK).

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:
1-~~LEC~~ 7-SJ
2-~~DTS~~ 8-FILE
3-VLC
4-RJF
5-~~LEC~~
6-PL

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

XX Change of Operator (well sold) ☐ Designation of Agent
☐ Designation of Operator ☐ Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 7-1-93)

TO (new operator) MEPNA
(address) PO DRAWER G
CORTEZ, CO 81321
GLEN COX (915)688-2114
phone (303) 565-2212
account no. N7370

FROM (former operator) PHILLIPS PETROLEUM COMPANY
(address) 5525 HWY 64 NBU 3004
FARMINGTON, NM 87401
PAT KONKEL
phone (505) 599-3452
account no. N0772(A)

Well(s) (attach additional page if needed): *RATHERFORD UNIT (NAVAJO)

Name: **SEE ATTACHED**	API: 43-037-31047	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:

OPERATOR CHANGE DOCUMENTATION

Lec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). (Req. 8-20-93) (6/93 Prod. Rpt. 8-16-93)

Lec 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). (Req. 8-31-93) (Rec'd 9-14-93)

N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____.

Lec 4. **(For Indian and Federal Wells ONLY)** The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.

Lec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 6. Cardex file has been updated for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 7. Well file labels have been updated for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (10-6-93)

Lec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

- OVER -

PERATOR CHANGE WORKSHEET (CONTINUED) Initial each item when completed. Write N/A if item is not applicable.

NTITY REVIEW

Lec 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ____ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

OND VERIFICATION (Fee wells only)

Lec/N/A 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

__ 2. A copy of this form has been placed in the new and former operators' bond files.

__ 3. The former operator has requested a release of liability from their bond (yes/no) ___. Today's date _____ 19___. If yes, division response was made by letter dated _____ 19___.

EASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

N/A 1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated _____ 19___, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.

DTS 11-10-93

N/A 2. Copies of documents have been sent to State Lands for changes involving **State leases**.

ILMING

✓ 1. All attachments to this form have been microfilmed. Date: 11-17 19 93.

ILING

Lec 1. Copies of all attachments to this form have been filed in each well file.

Lec 2. The original of this form and the original attachments have been filed in the Operator Change file.

OMMENTS

931006 BIA/Bhm Approved 7-9-93.

E71/34-35

FORM 10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
355 West North Temple, 3 Triad, Suite 350, Salt Lake City, UT 84180-1203

MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

C/O MOBIL OIL CORP
M E P N A
PO DRAWER G
CORTEZ CO 81321

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 6 / 95

AMENDED REPORT ☐ **(Highlight Changes)**

Well Name / API Number / Entity / Location	Producing Zone	Well Status	Days Oper	Production Volumes OIL(BBL)	GAS(MCF)	WATER(BBL)
#20-13 4303730917 06280 41S 24E 20	DSCR					
#20-24 4303730918 06280 41S 24E 20	DSCR					
#21-13 4303730921 06280 41S 24E 21	DSCR					
#20-22 4303730930 06280 41S 24E 20	DSCR					
RATHERFORD UNIT 20-33 4303730931 06280 41S 24E 20	DSCR					
#29-33 4303730932 06280 41S 24E 29	IS-DC					
'THERFORD UNIT 29-42 .303730937 06280 41S 24E 29	DSCR					
RATHERFORD UNIT 17-24 4303731044 06280 41S 24E 17	DSCR					
RATHERFORD UNIT 18-44 4303731045 06280 41S 24E 18	DSCR					
RATHERFORD UNIT 19-22 4303731046 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 19-31 4303731047 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 19-33 4303731048 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 20-11 4303731049 06280 41S 24E 20	DSCR					
		TOTALS				

OMMENTS: _____

I. ay certify that this report is true and complete to the best of my knowledge. Date: _____

ame and Signature: _____ Telephone Number: _____

2/93

Division of Oil, Gas and Mining

PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

[ ] Well File _____

_____

(Location) Sec___Twp___Rng___

(API No.) _____

[ ] Suspense

(Return Date) _____

(To - Initials) _____

[XXX] Other

OPER NM CHG

1. Date of Phone Call: 8-3-95 Time: _____

2. DOGM Employee (name) L. CORDOVA (Initiated Call [ ])
Talked to:

Name R. J. FIRTH (Initiated Call [XX]) - Phone No. ( )

of (Company/Organization) _____

3. Topic of Conversation: M E P N A / N7370

4. Highlights of Conversation:

OPERATOR NAME IS BEING CHANGED FROM M E P N A (MOBIL EXPLORATION AND PRODUCING NORTH AMERICA INC) TO MOBIL EXPLOR & PROD. THE NAME CHANGE IS BEING DONE AT THIS TIME TO ALLEVIATE CONFUSION, BOTH IN HOUSE AND AMONGST THE GENERAL PUBLIC.

*SUPERIOR OIL COMPANY MERGED INTO M E P N A 4-24-86 (SEE ATTACHED).

Mobil Oil Corporation

P.O. BOX 5444
DENVER, COLORADO 80217-5444

May 14, 1986

Utah Board of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attn: R. J. Firth
Associate Director

SUPERIOR OIL COMPANY MERGER

Dear Mr. Firth:
On September 20, 1984, The Superior Oil Company (Superior) became a wholly owned subsidiary of Mobil Corporation. Since January 1, 1985, Mobil Oil Corporation (MOC), another wholly owned subsidiary of Mobil Corporation, has acted as agent for Superior and has operated the Superior-owned properties.

On April 24, 1986, Superior was merged with Mobil Exploration and Producing North America Inc. (MEPNA), which is also a wholly owned subsidiary of Mobil Corporation. MEPNA is the surviving company of the merger.

This letter is to advise you that all properties held in the name of Superior will now be held in the name of MEPNA; and that these properties will continue to be operated by MOC as agent for MEPNA.

Attached is a listing of all wells and a separate listing of injection-disposal wells, Designation of Agent and an organization chart illustrating the relationships of the various companies. If you have any questions or require additional documentation of this merger, please feel free to contact me at the above address or (303) 298-2577.

Very truly yours,

R. D. Baker
Environmental Regulatory Manager

CNE/rd
CNE8661

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:
1-LEC 7-PL
2-LWP 8-SJ
3-~~DTS~~ 9-FILE
4-VLC
5-RJF
6-LWP

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

☐ Change of Operator (well sold) ☐ Designation of Agent
☐ Designation of Operator XXX Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: **8-2-95**)

TO (new operator)	**MOBIL EXPLOR & PROD**
(address)	**C/O MOBIL OIL CORP**
	PO DRAWER G
	CORTEZ CO 81321
	phone **(303) 564-5212**
	account no. **N7370**

FROM (former operator)	**M E P N A**
(address)	**C/O MOBIL OIL CORP**
	PO DRAWER G
	CORTEZ CO 81321
	phone **(303)564-5212**
	account no. **N7370**

Well(s) (attach additional page if needed):

Name: **** SEE ATTACHED ****	API: 037-31047	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:

OPERATOR CHANGE DOCUMENTATION

N/A 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form).

N/A 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form).

N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____.

N/A 4. **(For Indian and Federal Hells ONLY)** The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.

Lec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (8-3-95)

LWP 6. Cardex file has been updated for each well listed above. 8-31-95

LWP 7. Well file labels have been updated for each well listed above. 9-28-95

Lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (8-3-95)

Lec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

– OVER –

OPERATOR CHANGE WORKSHEET (CONTINUED) Initial each item when completed. Write N/A if item is not applicable.

ENTITY REVIEW

LEC 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ___ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only) * No Fee Lease Wells at this time!

N/A/LEC 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

___ 2. A copy of this form has been placed in the new and former operators' bond files.

___ 3. The former operator has requested a release of liability from their bond (yes/no) ___. Today's date _____ 19___. If yes, division response was made by letter dated _____ 19___.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

N/A 1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated _____ 19___, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.

DTS 8/5/95

N/A 2. Copies of documents have been sent to State Lands for changes involving **State leases.**

FILMING

✓ 1. All attachments to this form have been microfilmed. Date: October 6 19 95.

FILING

___ 1. Copies of all attachments to this form have been filed in each well file.

___ 2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

950803 LEC F5/Not necessary!

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 09/04/98

API NO. ASSIGNED: 43-037-31047

WELL NAME: RATHERFORD 19-31 MULTI-LEG
OPERATOR: MOBIL EXPL & PROD INC (N7370)
CONTACT: _____

PROPOSED LOCATION:
NWNE 19 - T41S - R24E
SURFACE: 0510-FNL-1980-FEL
BOTTOM: 0660-FSL-1980-FWL
SAN JUAN COUNTY
GREATER ANETH FIELD (365)

LEASE TYPE: IND
LEASE NUMBER: 14-20-603-353
SURFACE OWNER: _____

PROPOSED FORMATION: DSCR

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

✓ Plat
✓ Bond: Federal [✓] State [] Fee []
(No. ALREADY BONDED)
N Potash (Y/N)
N Oil Shale (Y/N) *190-5(B)
✓ Water Permit
(No. NAVAJO ALLOCATION)
N RDCC Review (Y/N)
(Date: _____)

N St/Fee Surf Agreement (Y/N)

LOCATION AND SITING:

✓ R649-2-3. Unit RATHERFORD UNIT

___ R649-3-2. General

___ R649-3-3. Exception

___ Drilling Unit
Board Cause No: _____
Date: _____

COMMENTS: _____

STIPULATIONS: _____

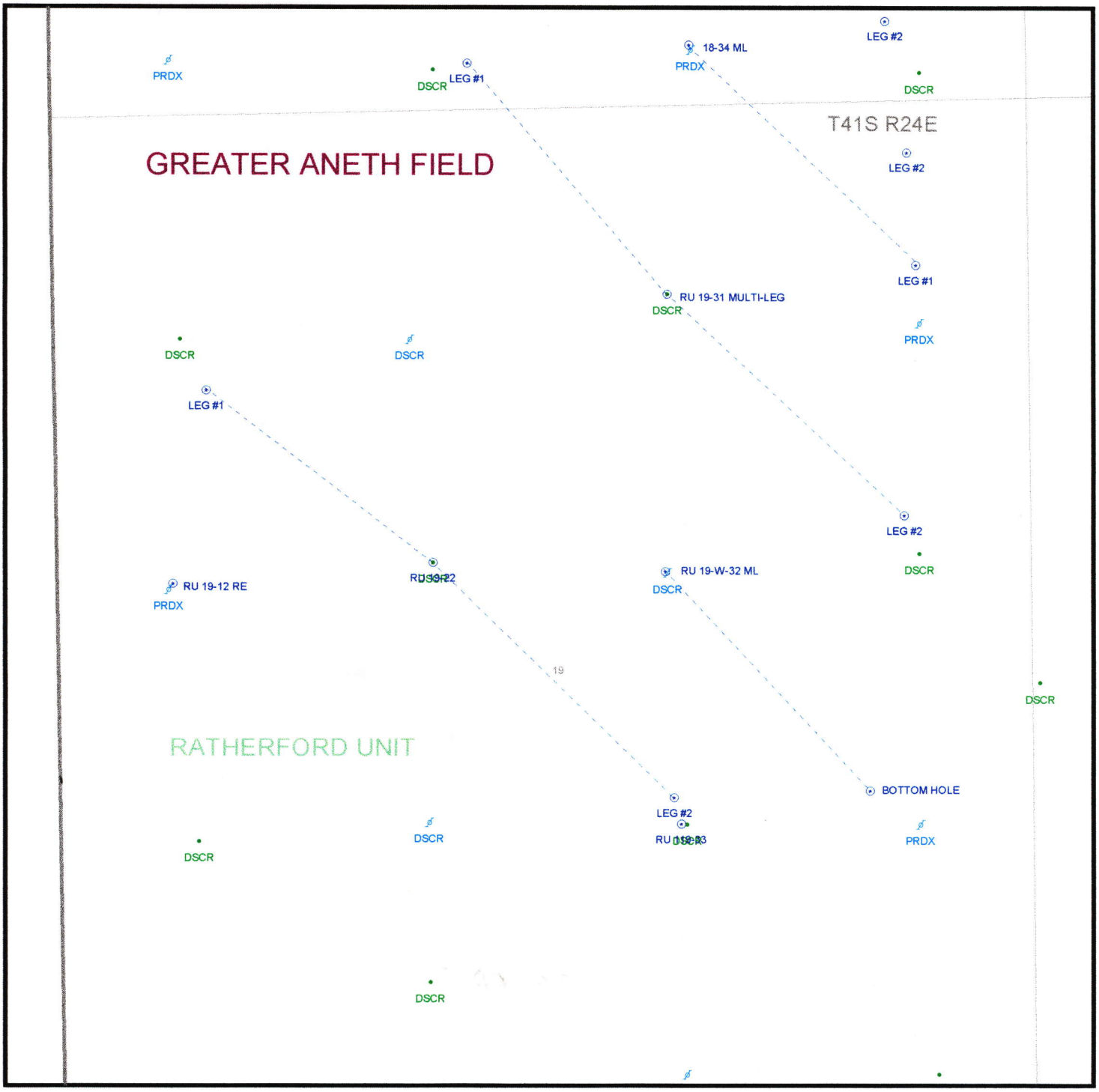
DIVISION OF OIL, GAS & MINING

OPERATOR: MOBIL EXPLOR & PROD (N7370)

FIELD: GREATER ANETH (365)

SEC. 19, TWP 41S, RNG 24E

COUNTY: SAN JUAN UNIT: RATHERFORD UNIT



DATE PREPARED:
14-SEP-1998

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 19-31
9. API Well No.: 43-037-31047
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 19, T41S, R24E
NW/NE 510' FNL & 1980' FEL
195

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other SIDETRACK	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

649013.53
4119697.30

BHL:

374 313 660 FSL 1980 FWL 18

LATERAL #1; 1226' NORTH & 1028' WEST FROM SURFACE SPOT (ZONE 1a). 648693.65 x 4120068.31

LATERAL #2; 1181' SOUTH & 1223' EAST FROM SURFACE SPOT (ZONE 1a). 649391.92 x 4119341.18

360 373

SEE ATTACHED PROCEDURE.

Approved by the
Utah Division of
Oil, Gas and Mining
Date: 9/14/98
By:

RECEIVED
SEP 04 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Shirley Houchins for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 8-31-98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

Ratherford Unit Well #19-31
Horizontal Drilling Procedure

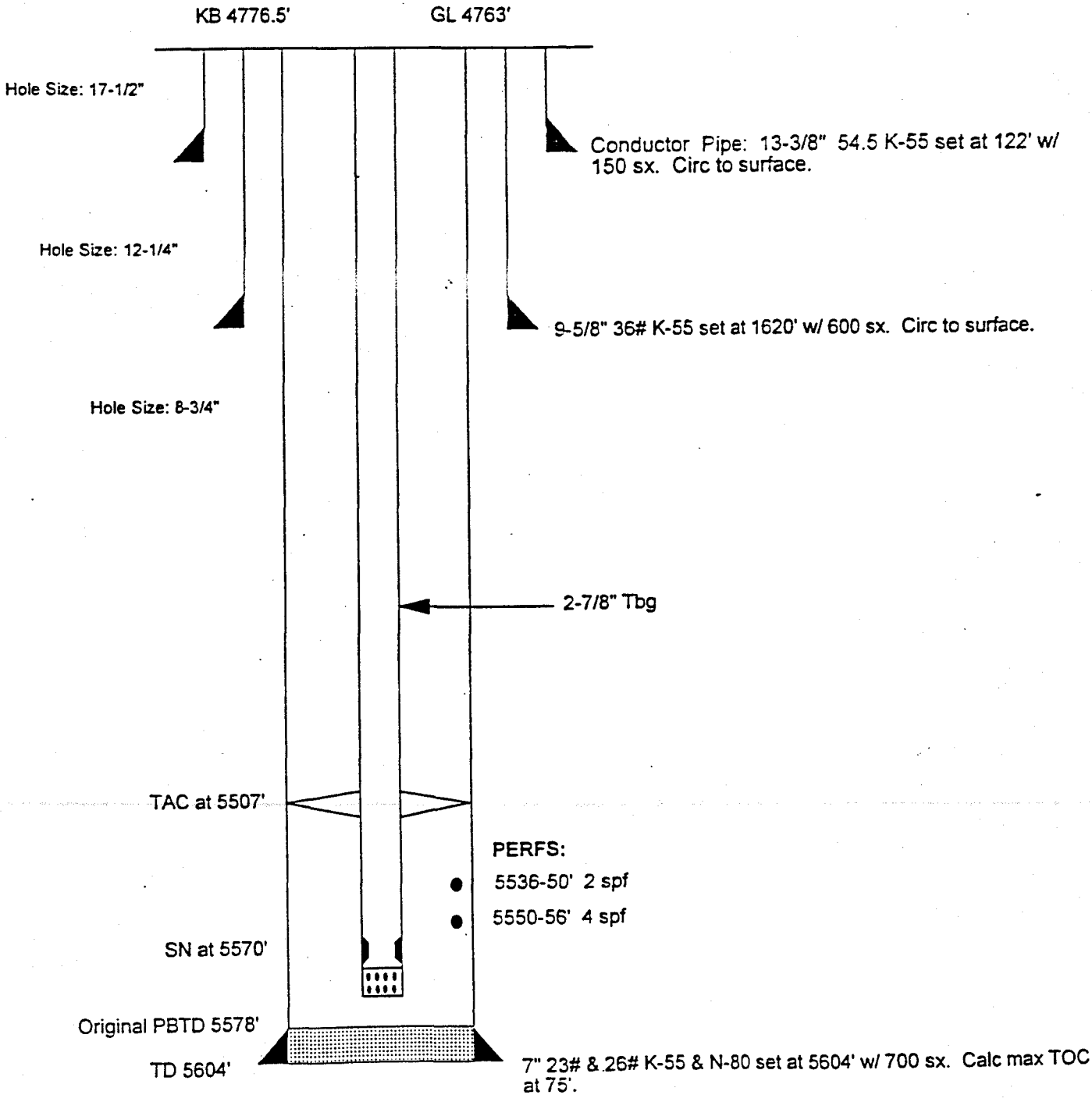
The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill multilateral short radius horizontal laterals (1600-1700 feet).

1. Prepare location and dig working pit.
2. MIRU WSU, reverse unit, and H2S equipment. Bullhead kill weight fluid down tubing.
3. ND wellhead and NU BOP's. Pressure test BOP's to working pressure.
4. Continue to POH with related equipment (tubing and rods for producers or tubing and packer for injectors).
5. RU wireline to run any logs desired and run gage ring for casing size and weight.
6. Set retrievable bridge plug and pressure test casing to 1000 psi.
7. RDMO WSU.
8. MIRU 24 hr. WSU. NU BOP's and pressure test with chart.
9. PU tubing, drilling collars, and drill pipe in derrick and run in hole. Then POH and stand back.
10. Run packer on wireline and set using GR/CCL log to correlate with. RD wireline.
11. PU drillpipe with UBHO sub in string and latch into packer to survey the hole and obtain orientation of keyway. POH w/gyro and drill string.
12. Orient whipstock on surface to desired bearing and RIH on drill pipe. Latch into packer. Shear starter mill bolt and make starter cut.
13. POH w/ starter mill and pick up window mill and watermelon mill and continue to mill window. Drill 1-2 ft of formation
14. POH w/ mills and PU curve building assembly and drill string with UBHO sub in string and RIH.
15. RU gyro to assist in time drilling and starting out of the casing window. POH w/ gyro when inclination dictates it must be pulled.
16. Finish drilling the curve using the MWD.
17. POH once curve is finished and PU lateral motor to drill the lateral using MWD.
18. Once lateral TD is reached, POH w/ directional equipment.
19. PU retrieving hook and RIH on drill pipe. Retrieve whipstock and PU new whipstock oriented for desired bearing to start in hole.
20. Repeat steps 12 through 19 for each subsequent lateral.

RATHERFORD UNIT # 19-31
GREATER ANETH FIELD
510' FNL & 1980' FEL
SEC 19-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-31047
PRISM 0043082

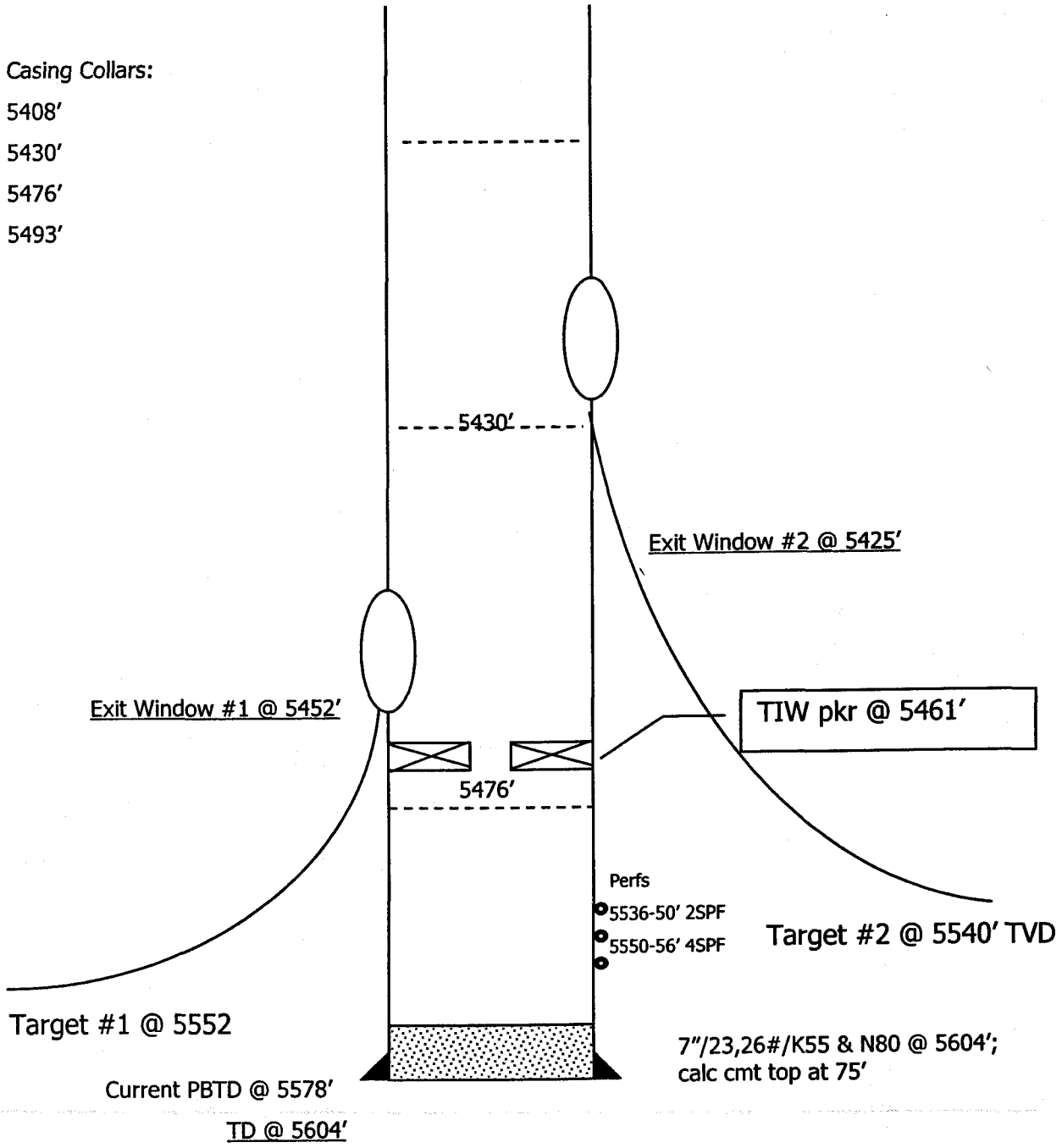
PRODUCER

Capacities:	bbl/ft	gal/ft	cuft/ft
2-7/8" 6.5#	.00579	.2431	.0325
7" 23#	.0393	1.6535	.2210
7" 26#	.0382	1.6070	.2148
2-7/8"x7"23#	.0313	1.3162	.1760
2-7/8"x7"26#	.0302	1.2698	.1697



L. A. TUCKER 7-9-96 R.U. # 19-31

Ratherford Unit #19-31



Window	Btm-Top of Window	Ext length	Curve Radius	Bearing	Horiz Displ
1	5452-44	------	100	310	1600
2	5425-17	17	115	134	1700

The double spline is 2.42 ft long and the bottom of the whipstock, the latch, the debris and the shear sub are 8.68 ft long. These lengths must be added to the extension lengths to determine the entire whipstock assembly length.

Pason

ROCKY MOUNTAIN GEO-ENGINEERING

Electronic Rig Monitoring Systems • Well Logging • Consulting Geology • Coal Bed Methane Services

PASON ROCKY MOUNTAIN GEO-ENGINEERING CORP.

2450 INDUSTRIAL BLVD. • GRAND JUNCTION, CO 81505

(970) 243-3044 • (FAX) 241-1085

Thursday, November 05, 1998

Division of Oil & Gas Mining
State of Utah
1594 West North Temple
3 Triad Center, Ste. 1210
Salt Lake City, UT 84116

Re: Ratherford Unit #19-31 Legs 1&2 43-037-31049
Sec. 19, T41S, R24E
San Juan County, Utah

Dear Sirs:

Enclosed is the final computer colored log and geology report for the above referenced well.

We appreciate the opportunity to be of service to you and look forward to working with you again in the near future.

If you have any questions regarding the enclosed data, please contact us.

Sincerely,

Bill Nagel
Senior Geologist

BN/dn

Enc. 1 Final Computer Colored Log and Geology Report For Each Leg
Log with log file
cc Letter Only; Dana Larson; Mobil E & P U.S., Inc.; Midland, TX

MOBIL

RATHERFORD UNIT #19-31
SE HORIZONTAL LATERAL LEG #2
UPPER 1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 19, T41S, R24E
SAN JUAN, UTAH

GEOLOGY REPORT
prepared by
DAVE MEADE
PASON/ROCKY MOUNTAIN GEO-ENGINEERING CORP.
GRAND JUNCTION, COLORADO
(970) 243-3044

TABLE OF CONTENTS

WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #19-31 SE HORIZONTAL LATERAL LEG #2 IN 1-A POROSITY ZONE OF DESERT CREEK
LOCATION:	SECTION 19, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB:4777' GL:4763'
SPUD DATE:	9/30/98
COMPLETION DATE:	10/18/98
DRILLING ENGINEER:	SIMON BARRERA / BENNY BRIGGS
WELLSITE GEOLOGY:	DAVE MEADE / LUKE TITUS
MUDLOGGING ENGINEERS:	DAVE MEADE / LUKE TITUS
CONTRACTOR:	BIG "A" RIG 25
TOOLPUSHER:	J. DEES
HOLE SIZE:	4 ¾"
CASING RECORD:	SIDETRACK IN WINDOW AT 5426' MEASURED DEPTH
DRILLING MUD:	M-I
ENGINEER:	RON WESTENBERG
MUD TYPE:	FRESH WATER & BRINE WATER W/ POLYMER SWEEPS
DIRECTIONAL DRILLING CO:	SPERRY-SUN
ELECTICAL LOGGING:	NA
TOTAL DEPTH:	7190' MEASURED DEPTH; TRUE VERTICAL DEPTH-5541.2'
STATUS:	PREPARING WELL FOR RIG MOVE TO R.U. #29-31 LOCATION

DRILLING CHRONOLOGY
RATHERFORD UNIT #19-31
1-A SE HORIZONTAL LATERAL LEG #2

DATE	DEPTH	DAILY	ACTIVITY
10/15/98	7046'	10'	TOH-L.D. LATERAL ASSEMBLY-P.U. RETRIEVING HOOK-TIH-P.U. 12 JTS D.P.- LATCH INTO WHIPSTOCK #1 & JAR LOOSE-CUT 70' DRLG LINE-TOH-L.D. WHIPSTOCK #1-P.U. WHIPSTOCK #2 & STARTER MILL-SET WHIPSTOCK @ 5417'-MILL 5416' TO 5419'-CIR BTMS UP-PUMP 170 BBLS BRINE-TOH-L.D. STARTER MILL-P.U. WINDOW MILLS-TIH-MILL 5419' TO 5426'-PUMP & CIR. SWEEP-DISPLACE HOLE W/BRINE
10/16/98	5426'	206'	L.D. 12 JTS PIPE-TOH-L.D. MILLS-P.U. CURVE ASSEM.-ORIENT & TEST-P.U. 12 JTS PIPE-TIH-R. U. GYRO DATA & RUN GYRO-TIME DRLG 5426' TO 5428'-DIR DRLG & WIRELINE SURVEYS TO 5459'-PULL GYRO & R. D. GYRO DATA-DRI DRLG & SURVEYS TO 5632 (T.D. CURVE)-PUMP SWEEP & CIR OUT SPLS-PUMP 100 BBLS BRINE
10/17/98	5632'	768'	DISPLACE HOLE W/145 BBLS BRINE-TOH-L.D. CURVE ASSEM.-P.U. & TEST LATERAL ASSEMBLY-TIH-SHUT IN WELL-INSTALL TIW VALVE-CIR. GAS OUT THRU CHOKE-TIH-CIR. GAS OUT THRU CHOKE-TIH-DIR DRLG & SURVEYS
10/18/98	6400'	790'	DIR DRLG & SURVEYS TO 7190'-PUMP SWEEP & CIR SPLS-DISPLACE HOLE W/BRINE-TOH TO WINDOW-DISPLACE HOLE-TOH-LAY DOWN LATERAL ASSEMBLY-P.U. RETRIEVING HOOK-TIH-LATCH INTO WHIPSTOCK #2-TOH
10/19/98	7190'	0'	SET RBP & PREPARE RIG FOR MOVE

DAILY ACTIVITY

Operator: MOBIL
Well Name: RATHERFORD UNIT #19-31 SE 1-A HORIZONTAL LATERAL LEG #2

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
10/15/98	7046'	10'			
10/16/98	5426'	206'			
10/17/98	5632'	768'			
10/18/98	6400'	790'			
	7190'	TD			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 SE 1-A HORIZONTAL LATERAL LEG #2

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 (RR)	4 3/4"	STC	MF-3P	5426'/ 5632'	206'	13	15.85
#2	4 3/4"	STC	MF-3P	5632'/ 7190'	1588'	29	54.76

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 SE 1-A HORIZONTAL LATERAL LEG #2

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	PH	WL	CK	CHL	CA	SD	OIL	WTR
10/15/98	7046'	8.5	26	1	1	0/0	12.0	NC	NC	13000	40	1%	4%	95%
10/16/98	5459'	9.1	26	1	1	0/0	11.5	NC	NC	94000	200	1%	10%	89%
10/17/98	5632'	9.1	26	1	1	0/0	10.5	NC	NC	93000	160	1%	14%	85%
10/18/98	6891'	9.0	26	1	1	0/0	9.5	NC	NC	64000	4000	1%	6%	93%

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-31, 2A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5300.00	0.84	265.14	5299.17	6.55 N	76.02 W	-59.24	0.00
5417.00	0.91	268.67	5416.16	6.46 N	77.80 W	-60.45	0.08
5426.00	3.20	134.00	5425.15	6.28 N	77.70 W	-60.25	43.26
5436.00	7.10	150.80	5435.11	5.55 N	77.19 W	-59.38	41.41
5446.00	11.90	155.10	5444.97	4.07 N	76.46 W	-57.83	48.49
5456.00	16.70	157.10	5454.66	1.81 N	75.46 W	-55.54	48.25
5466.00	21.40	158.30	5464.11	1.21 S	74.23 W	-52.56	47.16
5476.00	26.10	159.80	5473.26	4.97 S	72.79 W	-48.91	47.38
5486.00	30.50	161.70	5482.06	9.45 S	71.24 W	-44.68	44.91
5496.00	34.80	162.30	5490.48	14.58 S	69.57 W	-39.92	43.12
5506.00	39.40	162.80	5498.45	20.33 S	67.76 W	-34.62	46.10
5516.00	44.20	162.70	5505.91	26.69 S	65.79 W	-28.78	48.00
5526.00	48.40	162.70	5512.81	33.59 S	63.64 W	-22.44	42.00
5536.00	51.60	162.70	5519.24	40.91 S	61.36 W	-15.72	32.00
5546.00	55.20	162.90	5525.20	48.58 S	58.99 W	-8.69	36.04
5556.00	59.40	162.50	5530.60	56.61 S	56.48 W	-1.31	42.13
5566.00	64.10	162.10	5535.33	65.00 S	53.81 W	6.45	47.13
5576.00	68.70	161.90	5539.34	73.71 S	50.98 W	14.53	46.04
5586.00	73.40	162.30	5542.58	82.71 S	48.07 W	22.88	47.15
5596.00	78.40	163.40	5545.02	91.97 S	45.21 W	31.37	51.12
5606.00	83.90	164.60	5546.56	101.47 S	42.49 W	39.92	56.26
5632.00	92.90	162.80	5547.28	126.39 S	35.20 W	62.47	35.30
5672.00	88.10	158.20	5546.93	164.07 S	21.86 W	98.25	16.62
5703.00	85.70	155.00	5548.61	192.47 S	9.57 W	126.82	12.89
5735.00	86.70	152.40	5550.73	221.09 S	4.58 E	156.88	8.69
5767.00	86.80	148.70	5552.55	248.91 S	20.28 E	187.50	11.55
5799.00	88.20	146.10	5553.94	275.84 S	37.51 E	218.59	9.22
5831.00	89.50	143.10	5554.58	301.91 S	56.04 E	250.04	10.22
5862.00	87.60	141.50	5555.37	326.43 S	74.99 E	280.70	8.01
5893.00	88.20	139.00	5556.51	350.25 S	94.79 E	311.49	8.29
5925.00	88.70	135.70	5557.37	373.77 S	116.46 E	343.42	10.43
5957.00	91.70	134.50	5557.26	396.44 S	139.05 E	375.41	10.10
5988.00	94.00	134.30	5555.72	418.10 S	161.17 E	406.37	7.45
6020.00	94.80	134.30	5553.26	440.38 S	184.00 E	438.27	2.50
6051.00	93.80	133.40	5550.94	461.80 S	206.30 E	469.19	4.33
6083.00	92.00	132.70	5549.32	483.61 S	229.65 E	501.14	6.03
6114.00	88.30	132.50	5549.24	504.59 S	252.46 E	532.12	11.95
6146.00	87.40	130.80	5550.44	525.84 S	276.36 E	564.07	6.01

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-31, 2A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6178.00	87.50	128.70	5551.86	546.28 S	300.93 E	595.95	6.56
6210.00	88.90	128.50	5552.87	566.23 S	325.93 E	627.79	4.42
6241.00	90.90	127.40	5552.92	585.30 S	350.37 E	658.62	7.36
6273.00	91.60	127.30	5552.22	604.71 S	375.81 E	690.40	2.21
6305.00	91.10	126.90	5551.47	624.00 S	401.32 E	722.16	2.00
6337.00	91.10	126.20	5550.86	643.06 S	427.02 E	753.88	2.19
6369.00	92.40	126.20	5549.88	661.95 S	452.83 E	785.57	4.06
6401.00	91.80	126.20	5548.71	680.83 S	478.64 E	817.25	1.87
6432.00	90.30	126.20	5548.14	699.14 S	503.65 E	847.96	4.84
6464.00	89.00	125.50	5548.33	717.88 S	529.59 E	879.63	4.61
6496.00	88.10	124.80	5549.14	736.30 S	555.74 E	911.24	3.56
6528.00	87.80	124.50	5550.29	754.48 S	582.05 E	942.80	1.33
6560.00	88.10	123.80	5551.43	772.43 S	608.51 E	974.30	2.38
6591.00	89.00	123.60	5552.22	789.63 S	634.30 E	1004.79	2.97
6623.00	89.00	125.00	5552.77	807.65 S	660.73 E	1036.33	4.37
6654.00	89.30	126.70	5553.23	825.81 S	685.85 E	1067.01	5.57
6686.00	89.90	127.80	5553.46	845.18 S	711.32 E	1098.79	3.92
6717.00	91.00	127.80	5553.21	864.18 S	735.81 E	1129.61	3.55
6749.00	91.60	128.00	5552.49	883.83 S	761.06 E	1161.42	1.98
6781.00	91.80	129.40	5551.54	903.83 S	786.02 E	1193.27	4.42
6812.00	92.00	129.40	5550.51	923.49 S	809.96 E	1224.15	0.65
6844.00	91.70	129.00	5549.48	943.71 S	834.75 E	1256.02	1.56
6876.00	91.60	128.70	5548.56	963.77 S	859.66 E	1287.88	0.99
6908.00	92.50	129.40	5547.41	983.92 S	884.49 E	1319.74	3.56
6940.00	92.60	129.60	5545.99	1004.25 S	909.16 E	1351.61	0.70
6972.00	93.20	129.70	5544.37	1024.64 S	933.77 E	1383.47	1.90
7003.00	92.10	130.80	5542.94	1044.65 S	957.40 E	1414.37	5.02
7035.00	91.80	129.60	5541.85	1065.29 S	981.83 E	1446.28	3.86
7067.00	90.50	129.20	5541.21	1085.60 S	1006.55 E	1478.17	4.25
7099.00	89.40	129.00	5541.23	1105.78 S	1031.38 E	1510.06	3.49
7131.00	89.60	127.80	5541.51	1125.66 S	1056.46 E	1541.90	3.80
7157.00	90.50	126.70	5541.49	1141.40 S	1077.16 E	1567.72	5.47
7190.00	90.50	126.70	5541.20	1161.12 S	1103.61 E	1600.45	0.00

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET.
N/E COORDINATE VALUES GIVEN RELATIVE TO WELL HEAD.
TVD COORDINATE VALUES GIVEN RELATIVE TO WELL HEAD.
THE VERTICAL SECTION ORIGIN IS WELL HEAD.
THE VERTICAL SECTION WAS COMPUTED ALONG 134.00 (TRUE).
CALCULATION METHOD: MINIMUM CURVATURE.

7190 PROJECTED TO THE BIT

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 SE 1-A HORIZONTAL LATERAL LEG #2

DEPTH	LITHOLOGY

5425.00 5440.00 "LS crm-tan,brn,crpxl-micxl,arg,rthy-chk ip,dns,sl anhy,dol ip,plty-chk ip,tt,NFSOCw/thn intbd DOL-mgybrn-brn,crpxl-micxl,rthy,arg,lmy,rr mic fos,anhy,tt,NFSOC,rr blk carb calc-dol SH lams,rr smky gy-gybrn CHT frag,tr scat gy CMT frag"

5440.00 5450.00 "LS crm-tan-brn,crpxl-micxl,arg AA,dns,sl fos,tt,NFSOC,tr arg mbrn-brn lmy DOL chk sl fos tt NFSOC,scat bf-brn CHT,rr blk-dkgy SH lams"

5450.00 5460.00 "LS,mbn-bn-ltbn,crpyt-mic xln,dns-tt mtx,sl dol to dol ip,occ chlky/anhy,sl plty to plty,tr dkbn CHT frgs,tr DOL AA,NFSOC"

5450.00 5460.00 "LS,mbn-bn-ltbn-crm,crypt-mic xln,dns-tt mtx,occ slty-sft-mrly,rr blk carb-dol SH,tr scat dkbn-bn CHT frgs,tr dkbn-sl arg DOL frgs,NFSOC"

5470.00 5480.00 "LS,ltbn-mbn-occ bn-crm,crypt-vf xln,dns-tt mtx,tr dns rthy DOL,rr dkbn-blk sft-frm sl dol SH prtgs,tr ofwht-crm chlky/anhy LS,rr mic foss,sl plty,rthy to occ sl arg"

5480.00 5490.00 "LS,dkbn-mbn-dkgybn-gybn,mic xln,rthy,occ arg ip,sft-frm,rr owht crm mrly LS,tr dkbn-bn DOL frgs,dkbn-blk-bn CHT frgs,slty,occ dol ip,v rr foss frgs,NFSOC,rthy/intrxln fab POR"

5490.00 5500.00 "LS crm-ltgy-ofwht,mic-pred vf xln,slty,cln,chlky/anhy,v sl rthy,tr bn DOL,mrly ip grdg to MRLY LS-sft,tr smky-trnsl CHT frgs,sme ANHY xls,pred intrxln-tt fab POR,v-dul yel FLOR,no CUT/o STN"

5500.00 5510.00 "LS ltbn-ltgybn-ltgy,slty,sl rthy to cln,chlky,tr dkbn-bn DOL frgs,tr foss frgs-Crin"

5510.00 5520.00 "LS ltbn-ofwht-crm-ltgy-ltgybn,mic-vf xln,slty,scat dkbn-bn microsuc DOL,sln to sl rthy ip,tr trnsl CHT frgs,chlky,occ lmy,v sl mrly-occ dol ip,pred intrxln to compact xln POR,dul yel FLOR,no vis STN,wk dif CUT"

5520.00 5530.00 "LS AA,incr in blk-dkbn SH prtgs,tr dkbn DOL,pred interxln POR,dul-scat mbri yel FLOR,no vis STN"

5530.00 5540.00 "SH blk-dkbn-dkgybn,sbblky,occ fis-sbplty,mica,calc-dol,occ slty,tr micro-pyr,carb-sooty,scat tan-crm LS & dkbn-bn DOL"

5540.00 5550.00 "SH AA,decr in LS & DOL strks, v rr dkbn CHT frgs,NFSOC"

5550.00 5560.00 554"SH AA,bcmg pred crm-tn-ltbn to bn LS-crypt-mic xln,dns-tt mtx,sme dkbn dns DOL strgrs,sl plty occ,v rr ool,spty mbri FLOR,no vis o STN to v pr ltbn o STN,pred comp xln to rthy fab POR"

DEPTH	LITHOLOGY

5560.00 5570.00 "LS crm-tn-ofwht-occ bn,crypt-mic xln,mdns-tt mtx,occ slty,SH AA,DOL AA,chlky/anhy,occ cln,occ rthy to sl arg,tr ANHY xls,rr foss frgs,tr dkbn-bn CHT frgs,pr-intrxln fab POR,no vis to pr-ltbn o STN,spty FLOR,no CUT"

5570.00 5580.00 "LS AA,DOL AA,SH AA,scat bcmg sl ool to ool dns PKST w/ool oom/ooc GRNST,dul-mbri yelgld FLOR,tr slo strmg sl dif CUT,tr ltbn o STN,rr vg POR w/tr oom/ooc,pred interxln POR"

5590.00 5610.00 "LS, ltbn-bn-tn,mott,mic-vf xln,mdns mtx ip,grn-microsuc mtx,pred ool oom/ooc GRNST w/dns PKST,scat sl alg devlp,rr ANHY xls;pred pr-mg oom/ooc to mf intrxln fab POR ip,even mbri-bri yelgld FLOR,fst blmg to f-slo strmg dif mlky ring CUT,pred mf-mgo STN"

5610.00 5620.00 "LS,ltbn-tn-occ mbn,mott,mic-vf xln,grn-microsuc mtx,mdns mtx ip,pred oom/ooc ool GRNST,sme sl agl devlp,rr ofwht chlky mat/ANHY xls,sme dns sl ool occ tt PKST;POR AA,FLOR AA,pred mbn-ltbn mtx o STN w/scat blk dd o STN flg casts,fst blmg-mg-slo strmg CUT"

5620.00 5632.00 "LS AA,g-mbri-bri yelgld FLOR,mf-mg ltbn-mbn w/tr blk dd o STN res flg casts,fst blmg-mg slo strmg dif milky ring CUT,pred pr-mg occ g oom/ooc fab POR w/f-interxln fab POR ip"

5632.00 5660.00 "LS tan-brn,rr crm-brn,micxl-vfxl,gran-micsuc,sl ooc-oom occ alg GRNST,tr ANHY-DOL cmt,tr dns sl ool anhy PKST,scat CHT frag-ANHY xl,occ DOL-SH CVGS,tr-mg intxl-ool-tr alg POR,mfr-g bri yel FLOR,tr-fr ltbrn STN,v rr blk dd o STN,mfr-g mod fast-fast CUT"

5660.00 5680.00 "LS tan-ltbrn,micxl-vfxl,AA,v rr scat DOL & SH CVGS,scat trnsl ANHY xl-occ POR fl,rr DOL cmt,scat intool POR,fr-mg intxl-ool-scat alg POR,FLOR-STN-CUT AA"

5680.00 5690.00 "LS AA,pred intool-intxl-rr alg POR,fr-mg mod fast-tr fast stmg mlky CUT,FLOR-STN AA"

5690.00 5710.00 "LS tan-ltbrn,rr crm-bf,micxl-vfxl,gran,occ micsuc,pred ool-sl alg GRNST,rr ooc-oom fab,tr dns crpxl sl fos-rr ool PKST,rr ANHY-DOL cmt,v rr ANHY xl,mfr-mg ool-tr intxl-alg POR,mg bri yel FLOR,fr brn-v rr bLk STN,mg slow-mod fast stmg-tr fast stmg CUT"

5710.00 5730.00 "LS AA,pred ool GRNST AA,sl incr PKST frag-w/scat Crin fos,fr-g intool-intxl-tr alg POR,fr bri-mfr dull yel FLOR,fr brn-ltbrn STN,tr-mfr blk dd o STN,fr-mg slow-mod fast-rr fast stmg mlky CUT"

5730.00 5750.00 "LS tan-ltbrn,rr crm,micxl-vfxl,gran,occ micsuc,pred ool-sl alg GRNST,rr ooc-oom fab,w/intbd dns crpxl sl ool PKST w/Crin fos,rr ANHY-DOL cmt,rr ANHY xl,fr intxl-alg-tr ool POR,fr bri-dull yel FLOR,fr brn-tr bLk STN,mg slow-mod fast stmg-tr fast stmg CUT"

5750.00 5780.00 "LS AA,incr dns crpxl tan sl anhy PKST incr Crin fos,intbd ool-alg occ ooc GRNST,tt-mfr intool-fr intxl-rr ooc POR,mg dull-tr bri yel FLOR,fr brn STN-tr-mfr blk dd o STN,fr mod fast-tr fast stmg mlky CUT"

DEPTH	LITHOLOGY

5780.00 5800.00 "LS lt-mbrn,occ tan-crm,crpxl-vfxl,gran-micsuc ip,intbd ool-alg sl ooc GRNST & sl anhy crpxl PKST frag w/abnt Crin fos,scat ANHY incl-v rr POR fl,occ DOL cmt,tr-fr intxl-alg-rr intool POR,mfr-fr dull-tr bri yel FLOR,mfr-fr brn-tr blk STN,mfr mod fast CUT"

5800.00 5820.00 "LS AA,sl decr PKST & Crin fos,incr POR,POR pred in intxl-alg fab around ool mat & Crin fos,fr-mg dull-tr bri yel FLOR,fr brn-mfr blk dd o STN,fr slow-mod fast-tr fast stmg mlky CUT"

5820.00 5850.00 "LS tan-brn,rr crm-mbrn,crpxl-vfxl,occ gran-micsuc,intbd sl ool-alg GRNST & dns crpxl v sl ool PKST frag-intcl w/tr Crin fos,tr DOL cmt,rr ANHY xl-v rr POR fl,mfr-fr intxl-tr alg-ool POR,fr-mg dull-tr bri yel FLOR,fr brn-tr blk STN,mfr-fr mod fast CUT"

5850.00 5880.00 "LS AA,pred intbd sl alg-v sl ool GRNST & dns v sl ool PKST intcl w/abnt Crin fos,v sl pel tex(oom),tt-mg intxl-mfr alg POR,mg mbri-rr bri-tr dull yel FLOR,fr brn-tr mbrn STN-tr blk dd o STN,mfr-fr slow-mfr mod fast-tr fast stmg mlky CUT"

5880.00 5900.00 "LS AA,scat Crin fos AA,intbd GRNST & PKST AA,POR-FLOR-STN-CUT AA"

5900.00 5930.00 "LS tan-brn,rr crm-mbrn,crpxl-vfxl,occ gran-micsuc,pred sl ool-alg GRNST w/dns crpxl sl ool plty-chk ip PKST frag-intcl-scat Crin fos,tr DOL cmt,rr ANHY xl,fr intxl-tr alg-ool POR,fr-mg dull-tr bri yel FLOR,fr brn-tr blk STN,mfr-fr mod fast CUT"

5930.00 5940.00 "LS crm-tan,occ offwh,tr lt-mbrn,crpxl-vfxl,occ gran-micsuc,pred dns chk-plty occ fos PKST w/thn intbd stks sl alg-occ ool GRNST,rr Crin fos,sl anhy,rr DOL cmt,tt-fr intxl-alg-rr ool POR,tr-mfr dull-bri yel FLOR,tr-mfr brn-sl tr blk STN,n-mfr mod fast CUT"

5940.00 5960.00 "LS tn-crm-scat ltbn,mic-vf xln,scat grn-microsuc mtx,pred mdns-dns mtx,pred dns sl ool sl foss PKST,rr ANHY xls,decr in Crin frgs-rr ool-rr alg mat/dvelp;pred mf-f intrxln to sl vg/alg POR,m-v slo strmg dif CUT,m-mbri yel FLOR,tr-m ltbn-occ mbn o STN"

5960.00 5970.00 "LS AA,tr dd blk o STN res,incr in grn-microsuc mtx & Crin sl ool GRNST,scat alg fab POR"

5970.00 6000.00 "LS ltbn-mbn-crm-tn,mott ip,vf xln,mdns mtx ip,grn-microsuc mtx,rr dns mtx,pred alg foss ool GRNST,intrclstc-foss frgs-LS frgs-rr CHT frgs;pred vug/alg fab POR w/interxln fab POR ip,rr ool/oom fab POR,mf-f mbn-ltbn o STN,even dul-mbri yel FLOR,mlky ring "

6000.00 6030.00 "LS AA.pred mf-f intrxln w/vug/alg fab dev POR ip,pred mf-f occ mg mbn to ltbn w/scat blk dd o STN res,even dul-mbri yel FLOR,fst blmg CUT"

6030.00 6060.00 "LS,ltbn-occ bn-tn/crm,scat mic xln-pred vf xln,grn-microsuc-occ suc mtx,mdns mtx ip,sl dol w/DOL cmt ip,pred intrclstc foss sl ool alg GRNST w/tr dns-tt PKST,scat calc frac flgs,rr ANHY xls-anhy POR,tr Crin & foss frgs,rr ool/pel,rr carb mat,fri"

DEPTH	LITHOLOGY

6060.00 6080.00 "LS pred mf-mg intrxln to vug/alg fab dev POR,microsuc fab POR ip,v-rr ool fab POR,mf-f mbri-spty bri yel FLOR,mf-f occ g mbn to ltbn o STN & blk dd o STN around intrclst of LS-foss frgs(Crin)-calc xls,f-fst blmg to mf v-slo strmg dif mlky ring CUT"

6080.00 6110.00 "LS,ltbn-mbn-tn,mott,pred vf xln,mdns mtx,pred ool rich sl oom vug/alg GRNST,tr dns ool PKST,decr in intrclstic & Crin foss frgs;pred inetrxln-ool fab POR,incr in blk dd o STN res-pred mf-mg mbn o STN,mg- CUT,f-mbri yel FLOR"

6110.00 6130.00 "LS AA,pred ool rich GRNST w/mf-mg intrxln-ool fab POR,rr sl oom fab POR,sl alg dev in ool casts,f-mbri yelgld FLOR,pred mf-gm mbn-ltbn o STN w/abunt blk dd o STN res,mg-fst to f slo strmg dif mlky ring CUT,rr ANHY xls"

6130.00 6160.00 "LS,ltbn-tn-occ bn,mott,vf xln,mdns mtx ip,grn-tr microsuc mtx,pred ool rich GRNST,rr dns PKST,v sl alg dev,rr calc frac flgs;pred mf-mg interxln-ool fab POR,mg-slo dif CUT,even bri yelgld FLOR,pred ltbn-mbn o STN w/rr blk o STN"

6160.00 6190.00 "LS AA,pred ool rich GRNST,v sl oom dev POR,mg-g even yel FLOR,fst dif CUT,pred ltbn-mbn o STN w/scat blk dd o STN,tr pel/foss frgs,scat calc xls"

6190.00 6210.00 "LS,bn-ltbn-tn,mott,mic-vf xln,mdns mtx ip,grn-microsuc mtx,pred ool alg GRNST,sl dol,tr calc frac flgs;pred mg-intrxln-ool w/a sl microsuc/alg fab POR,even mbri-bri yelgld FLOR,fst g-blmg CUT,pred ltbn-bn o STN"

6210.00 6240.00 "LS AA,g-even bri yelgld FLOR,g-fst blmg strmg CUT,pred mg-ltbn-mbn-bn o STN w/scat blk dd o STN res,pred mf-mg interxln to ool fab POR w/microsuc/alg fab POR ip,sme pel"

6240.00 6270.00 "LS ltbn-tn-occ bn,mott ip,vf xln,mdns mtx ip,pred grn-microsuc-occ sucrosic mtx,occ sl dol to DOL cmt ip,tr calc frac flgs-crm-trnsl-ofwht,rr chlky mat,v sl anhy,pred alg sl ool to occ ool rich mdns ip GRNST,v rr dns-tt tn PKST,sme pel,v rr blk carb SH "

6270.00 6300.00 "LS AA,pred alg microsuc to rr sucrosic to mf-mg intrxln-ool poss vug fab POR,g-fst blmg to mg slo strmg dif mlky ring CUT,mf-mg ltbn-mbn v rr dkbn o STN scat blk dd o STN,mg-g bri yelgld FLOR,fri"

6300.00 6330.00 "LS, ltbn-tn-occ bn,mott ip,mic-vf xln,pred alg sl ool to ool GRNST,scat ANHY xls-sl anhy,fri,POR AA,FLOR AA,o STN AA,CUT AA"

6330.00 6350.00 "LS,ltbn-tn,mic-vv xln,mdns mtx ip,grn-microsuc mtx,pred GRNST w/v rr dns-tt PKST,ool,alg,scat calc frac flgs;pred mf-mg intrxln-ool to alg fab POR,mf-mg ltbn-mbn o STN,tr dd o STN,mg-g even yelgld FLOR,fstblmg to mg-slo strmg dif CUT"

6350.00 6380.00 "LS,ltbn-tn,mic-vf xln,mdns mtx ip,grn-microsuc mtx,pred GRNST w/v rr dns-tt PKST,ool,alg,scat calc frac flgs;pred mf-mg intrxln-ool to alg fab POR,mf-mg ltbn-mbn o STN,tr dd o STN,mg-g even yelgld FLOR,fstblmg to mg-slo strmg dif CUT"

DEPTH	LITHOLOGY

6380.00 6410.00 "LS,bn-ltbn-tn,mott,mic-vf xln,mdns mtx ip,grn-microsuc mtx,pred ool alg GRNST,sl dol,tr calc frac flgs;pred mg-intrxln-ool alg fab POR,even mbri-bri yelgld FLOR,fst g-blmg CUT,pred ltbn-bn o STN"

6410.00 6440.00 641"LS mbn-ltbn-tn,mott,mic-vf xln,mdns mtx ip,pred ool rich sl foss GRNST,tr Crin frgs,sl dol,decr in alg dev;pred mg-intrxln-ool fab POR w/v rr oom fab POR,mg-mbn o STN w/rr blk dd o STN res,g-bri yel FLOR,mg-slo strmg dif CUT"

6440.00 6470.00 "LS AA,mf-mg mbn o STN w/rr blk dd o STN res,even mg-g bri yelgld FLOR,tr fst to pred mg slo strmg dif mlky ring CUT,mg-intrxln-ool fab POR"

6470.00 6500.00 "LS,ltbn-mbn,mott,mic-vf xln,mdns mtx ip,grn-rr microsuc mtx,pred ool foss GRNST,abunt Crin stem,v rr dns PKST,v sl dol;pred intrxln-ool/foss fab POR,bri yelgld FLOR,g-strmg CUT,pred ltbn-mbn o STN"

6500.00 6530.00 "LS AA,g-even mbri-bri yelgld FLOR,fst to mf slo strmg dif mlky ring CUT,pred mf-mg mbn-ltbn o STN,mg-intrxln-ool fab POR"

6530.00 6560.00 "LS mbn-ltbn,mott,mdns mtx ip,vf-mic xln,pred ool Crin foss GRNST,v rr alg dev in casts,rr calc frac flgs,occ intrclstc ip;POR AA,CUT AA,FLOR AA,o STN AA,scat blk d o STN res"

6560.00 6590.00 "LS,ltbn-mbn,mott,mic xln-vf xln,mdns mtx ip,grn-mtx,pred ool GRNST,scat Crin frgs,v rr dns PKST,v sl dol;pred mg-g intrxln-ool fab POR,g-bri yelgld FLOR,m-strmg sl dif CUT,pred mf-f ltbn-mbn o STN"

6590.00 6620.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,occ gran-micsuc,intbd sl ool-alg GRNST & dns sl ool occ anhy PKST intcl w/abnt Crin fos,occ DOL cmt,rr ANHY xl-POR fl,mfr-mg intxl-fr alg POR,fr-mg bri-dull yel FLOR,mfr-fr brn STN,v rr blk dd o STN,fr-mg mod fast-fast CUT"

6620.00 6640.00 "LS AA,incr dns sl anhy-anhy PKST intcl & abnt Crin fos,occ sl pel-oom tex,incr ANHY cmt-POR fl,fr-mg dull-fr bri yel FLOR,mfr brn STN,v rr spty blk dd o STN,mfr-fr mod fast-mfr fast stmg mlky CUT"

6640.00 6670.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,occ gran-micsuc,intbd sl ool-oom alg GRNST & dns occ anhy PKST intcl w/abnt Crin fos,occ DOL cmt,rr ANHY xl-POR fl,mfr-mg intxl-fr alg POR,fr dull-tr bri yel FLOR,mfr-fr brn STN,v rr blk dd o STN,fr mod fast-mfr fast CUT"

6670.00 6720.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,tr gran-micsuc,pred sl ool-oom v alg GRNST w/scat dns occ anhy PKST intcl,abnt Crin fos,occ DOL cmt,rr ANHY xl-POR fl,mfr-mg intxl-fr alg POR,fr bri-mfr dull yel FLOR,fr brn STN,v rr blk dd o STN,fr mod fast-mfr fast CUT"

6720.00 6740.00 "LS AA,w/sl incr PKST intcl & Crin fos,occ pel-oom tex,PRO-FLOR-STN-CUT AA"

DEPTH	LITHOLOGY

6740.00 6760.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,gran-micsuc ip,pred dns fos sl anhy-rr ool PKST frag-intcl w/abnt Crin fos & thn intbd alg-sl oom-ool GRNST,rr ANHY xl-v rr POR fl,sl tr DOL cmt,v rr CALC xl,tt-mg intxl-fr alg POR,mfr-fr bri-mfr dull yel FLOR,mfr ltbrn- rr brn STN,n-v rr spty blk dd o STN,mfr-fr mod fast stmg-mg slow dif-v rr fast stmg CUT"

6760.00 6790.00 "LS AA,pred intbd GRNST AA & PKST AA,sl decr Crin fos,incr POR-FLOR-STN-CUT"

6790.00 6820.00 "LS tan-ltbrn,tr brn,pred micxl-vfxl,occ gran-micsuc,bcmg pred sl alg-alg v sl oom GRNST w/scat dns v fos PKST intcl-fr amnt Crin fos,v rr pel-oom tex,scat ANHY xl-POR fl,mfr-fr intxl-alg-v rr ool POR,fr-mg bri-mfr dull yel FLOR,mfr brn-v rr blk STN,fr mod fast-tr fast stmg CUT w/vg slow dif CUT"

6820.00 6840.00 "LS AA,incr dns PKST frag-intcl & Crin fos,sl decr intxl-alg POR & STN,FLOR & CUT AA"

6870.00 6910.00 "LS tan-ltbrn,rr brn,micxl-vfxl,incr gran-micsuc,pred alg-v sl ooc GRNST,w/decr dns crpxl als anhy PKST frag-intcl,decr Crin fos,rr DOL rich cmt,scat ANHY xl-rr POR fl,v rr bf CHT frag,mfr-mg intxl-fr alg-v rr ool POR,fr bri-mfr dull yel FLOR,fr ltbrn-brn-tr dkbrn-blk STN,mfr-fr mod fast-mfr fast stmg mlky CUT"

6910.00 6940.00 "LS AA,bcmg pred ooc-oom GRNST,decr alg mat,tr dns crpxl sl anhy v sl ool PKST frag-intcl,decr Crin fos,sl incr ANHY xl-incl-v rr POR fl,mg intxl-fr ool-alg POR,fr-mg bri-mfr dull yel FLOR,fr-mg brn-dkbrn STN,tr blk dd o STN,mfr-fr mod fast-fast stmg CUT"

6940.00 6970.00 "LS tan-ltbrn-brn,micxl-vfxl,gran-suc ip,pred ooc-oom sl alg GRNST,w/scat dns sl ool PKST intcl,rr Crin fos,rr trnsl CHT frag,occ ANHY xl-rr POR fl,sl dol,fr-mg intxl-mfr ool-alg POR,mg dull-fr bri yel FLOR,mg lt-mbrn-tr blk STN,fr-mg mod fast-fast CUT"

6970.00 7000.00 "LS tan-lt-mbrn,micxl-vfxl,gran,suc ip,pred ooc-oom sl alg GRNST,tr scat dns sl fos PKST frag-intcl,v rr CHT frag,n-v rr ANHY xl-v rr POR fl,v sl dol,mg intxl-fr ool-alg POR,mg bri-dull yel FLOR,fr brn-mbrn STN,tr blk dd o STN,fr-mg mod fast-fast stmg CUT"

7000.00 7030.00 "LS AA,sl incr PKST intcl-frag,v rr trnsl-bf CHT frag,mfr-mg intxl-ool-tr alg POR,mg bri-tr dull yel FLOR,fr lt-dkbrn STN,rr-tr blk dd o STN,fr mod fast-fast stmg mlky CUT"

7030.00 7070.00 "LS tan-ltbrn,rr brn-gybrn,crpxl-vfxl,occ gran-suc,pred ooc-oom v sl alg GRNST,w/incr ool PKST frag,DOL-ANHY cmt ip,rr ANHY xl-POR fl,tt-fr intxl-tr ool-rr alg POR,mfr-fr bri-mfr dull yel FLOR,mfr ltbrn-brn-rr blk STN,p-fr slow-mod fast-rr fast stmg CUT"

7070.00 7100.00 "LS AA,incr ooc-oom mat,abnt dns PKST intcl-frag,rr DOL cmt,occ ANHY xl-cmt-tr POR fl,v rr trnsl-clr CHT frag,fr intxl-tr ool-v rr alg POR,mfr bri-tr dull yel FLOR,tr-mfr brn STN,sl tr blk dd o STN,mfr-fr slow-mod fast-tr fast stmg mlky CUT"

DEPTH	LITHOLOGY

7100.00 7120.00 "LS tan-lt-mbrn,rr gybrn,crpxl-vfxl,sl gran-misuc,pred ooc-oom v sl alg GRNST w/abnt ool dns sl anhy PKST frag-intcl,v rr CHT frag,sl dol,rr-sl tr ANHY xl-rr POR fl,tt-fr intxl-ool POR,mfr-fr bri-dull yel FLOR,mf brn-tr blk STN,mfr slow-mod fast stmg CUT"

7120.00 7150.00 "LS AA,pred micxl-vfxl,incr gran-suc,ooc-oom mfr alg GRNST,w/scat PKST intcl AA,tr-mfr ANHY cmt-tr POR fl,occ DOL cmt,fr ool-alg-mfr intxl POR,fr bri-mfr dull yel FLOR,fr lt-mbrn STN-tr blk dd o STN,mfr-fr slow-mod fast-mfr fast stmg mlky CUT"

7150.00 7170.00 "LS AA,incr alg mat,occ suc,scat ANHY xl,fr-mg ool-intxl-mfr alg POR,mfr bri-fr dull yel FLOR,mfr-fr ltbrn-brn-tr dkbrn STN-tr blk dd o STN,fr slow-mod fast-tr fast stmg mlky CUT"

7170.00 7190.00 "LS tan-ltbrn,rr ltgy-crm-brn,crpxl-vfxl,occ gran-micsuc,sl suc ip,intbd dns v sl ool anhy sl fos PKST frag-intcl & ooc-oom sl alg GRNST,scat ANHY xl-POR fl,occ DOL cmt,v rr CALC xl,tr-mfr ool-alg-fr intxl POR,mfr-fr bri-mfr dull yel FLOR,mfr ltbrn-brn STN,sl tr blk dd o STN,mfr-fr slow-mod fast-rr-sl tr fast stmg mlky CUT"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 SE 1-A HORIZONTAL LATERAL LEG #2

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4777'
LOWER ISMAY		5466'	5464'	-687'
GOTHIC SHALE		5527'	5513'	-736'
DESERT CREEK		5553'	5529'	-752'
UPPER DC 1-A ZONE		5567'	5535'	-758'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S., Inc., Ratherford Unit #19-31 Southeast Horizontal Lateral Leg #2 was a re-entry of the Mobil Ratherford Unit #19-31 located in Section 19, T41S, R24E, and was sidetracked in a southeasterly direction from 5426' measured depth, 5425' true vertical depth, on October 16, 1998. The lateral reached a measured depth of 7190', true vertical depth of 5541' at total depth, with a horizontal displacement of 1600' and true vertical plane of 126.7 degrees on October 18, 1998. The lateral was terminated in the 1-A porosity zone in the Upper Desert Creek Member of the Paradox Formation. The curve and lateral were drilled with fresh water and brine water with polymer sweeps as the drilling fluid. Drilling fluid was run through the gas buster throughout the curve and lateral sections. The proposed target line was used as a reference point throughout the lateral. The curve and lateral sections were drilled with no significant mechanical problems. There was no measurable flow or loss of fluid during the drilling of the lateral and curve sections.

The objective of the Ratherford Unit #19-31 southeast lateral Leg #2 was to penetrate and drill 1700' horizontally in the Desert Creek 1-A porosity zone; to identify and define its lithology, and to evaluate the effective porosity of the zone. In this southeasterly direction, the 1-A porosity zone appeared to have a very consistent and well developed porosity, thus was the target for drilling in this lateral. The objectives outlined above were met in the 1-A porosity zone of the Desert Creek. The lithology of the porosity penetrated in this southeasterly lateral was predominately an oolicastic to oomoldic, very slightly algal limestone grainstone facies, and had a fair to good hydrocarbon and gas show, with good visible effective porosity and permeability. As the lateral bumped the top of the 1-A zone, a very minor increase in dense, very slightly oolitic, occasionally platy and chalky limestone packstone was noted. These packstones had no to very minor porosities and no to extremely poor sample and gas shows.

The curve was begun in the lower portion of the Upper Ismay on October 16, 1998 before encountering the typical sections of the Lower Ismay, Gothic Shale, Desert Creek and the 1-A porosity bench carbonate cycle of the Upper Paradox Formation. Of note was the 6' to 10' flare seen from the start of the curve section, from the oil and gas in the system from lateral leg #1.

The curve section was began at measured depth of 5426', 5425' true vertical depth in the lower third of the Upper Ismay carbonate cycle of the Upper Paradox Formation. The lower Upper Ismay was penetrated from a measured depth of 5426', to a measured depth of 5466', true vertical depth 5425'. This lower 40' of the Upper Ismay member was a predominately a clean to dense, occasionally argillaceous, tight limestones, with scattered interbeds of earthy to argillaceous dolomites, very thin black carbonaceous shale partings and scattered chert fragments. The limestones were cream to white, some light gray to medium gray brown to brown, cryptocrystalline to microcrystalline, clean and dense, with streaks of an earthy to argillaceous to chalky texture. These limestones had no visible porosity or sample show. The thin interbedded dolomites were brown to medium brown, cryptocrystalline to microcrystalline, earthy to argillaceous, occasionally clean, some limey, becoming marly with depth. Scattered unidentifiable microfossils and rare Crinoid fossils were noted in both the limestones and dolomites. As with the limestones the dolomites had no visible porosity or sample shows. The shale parting were black to dark gray, subblocky to subplaty,

occasionally fissile, very slightly silty, micaceous, and calcareous to slightly dolomitic, and had very minor Crinoid fossils. Scattered throughout the Upper Ismay carbonates were translucent to buff to dark brown chert fragments. The basal carbonates became increasingly marly and graded into the thin, very fossiliferous, carbonaceous Hovenweep Shale. The Hovenweep Shale, which defines the Upper and Lower Ismay contact, was represented by an very slight increase in the black carbonaceous, dolomitic to calcareous, occasionally silty shale. This contact is very poorly represented in the samples from measured depths of 5462' and 5466', true vertical depths 5461' to 5464'.

The top of the Lower Ismay member of the Upper Paradox Formation was picked at a measured depth of 5466', true vertical depth 5465', based primarily on sample identification and a very slight decrease in the rate of penetration. The upper 5' to 6' of the Lower Ismay was thinly interbedded tan to light gray dense, very slightly anhydritic, fossiliferous limestones, some argillaceous, brown to medium brown dolomites, with very thin black carbonaceous shale partings and rare chert fragments. The Lower Ismay, from measured depths of 5471' to 5491', was a light to medium brown, gray brown to dark gray brown, very rare cream, cryptocrystalline to microcrystalline, dense, argillaceous to some chalky, slightly anhydritic to rare anhydrite streaks, but no visible porosity or sample show. This interval had very thinly interbedded brown to dark brown, microcrystalline, dense dolomites with earthy texture. These limestones and dolomites graded to scattered dense marlstone on occasion. Scattered throughout this 20 foot interval were thin dark gray to black, slightly carbonaceous shale laminations and brown to black chert fragments. As the curve continued in the Lower Ismay the limestones became predominately white to cream to light gray, cryptocrystalline to microcrystalline, with granular streaks, chalky, slightly to very silty, occasionally anhydritic, chalky and occasionally dolomitic in part, from the measured depths of 5491' to 5523'. This limestone had streaks of well cemented very silty limestone grainstones; some scattered translucent to light to dark brown chert fragments, and very rare thin brown, earthy dolomites. It was also noted that these limestones occasionally graded to very limey siltstones, and had scattered micro to Crinoid fossils. Associated with the limestones were very rare streaks of very poor intercrystalline porosity, but had no visible fluorescence, stain or hydrocarbon cut. The basal 4 feet of the Lower Ismay, from a measured depth of 5523' to a measured depth of 5527', was a very dense, slightly dolomitic limestone packstone and earthy limey dolomites. These limestones and dolomites became slightly to very marly with depth, and had scattered anhydrite interclasts and chert fragments. The basal limestones and thin dolomites were very tight with no visible porosity or sample show. The basal limestones and dolomites of the Lower Ismay carbonates graded into limey to dolomitic carbonaceous shales of the Gothic Shale.

The Gothic Shale was penetrated at a measured depth of 5527', true vertical depth 5513', and gradationally underlies the Lower Ismay. The top of the Gothic Shale was picked on a gradual increase in the penetration rate and a significant increase in the amount of black carbonaceous shale in the cuttings. This shale member of the Upper Paradox Formation was seen to be fifteen feet thick in this southeasterly direction. This shale is black to dark gray shale, carbonaceous to sooty, occasionally micaceous, slightly silty to silty, soft to moderately firm, slightly fissile, subblocky to subplaty, calcareous to slightly dolomitic and slightly micaceous. Very thin partings of dense, very slightly argillaceous, occasionally dolomitic limestones and clean to very argillaceous limey dolomites were noted in this shale member. The Gothic overlays the top of the Desert Creek Member with a sharp contact.

The top of the Desert Creek Member of the Upper Paradox Formation was picked at a measured depth of 5551', 5528' true vertical depth, at a rather abrupt decrease in the rate of penetration and an increase in the amount of dense limestone packstone in the samples. This transition zone had a true vertical thickness of approximately seven feet. The transition zone between the Gothic Shale and the top of the Upper Desert Creek 1-A porosity zone was predominately a dense limestone packstone, which had very argillaceous and very slightly oolitic streaks and very thinly interbedded argillaceous to dense, slightly limey to marlstones dolomites. Also noted were rare, very thin black carbonaceous shale partings. The limestones of the transition zone are light brown to cream to white to

light gray, cryptocrystalline to microcrystalline, with very rare very finely crystalline streaks, dense to slightly silty, and very slightly dolomitic. Scattered in the limestones are very thin, dark brown, very argillaceous, very slightly marly, limey dense dolomites and rare very thin black, slightly micaceous, calcareous, very slightly carbonaceous shales. The limestones of the transition zone had a streak of very poor intercrystalline porosity, with a very poor, weak sample show. Near the base of the transition zone the dense limestones became increasingly oolitic and graded into the oolicastic to oomoldic limestones of the upper 1-A porosity bench.

The top of the Desert Creek Upper 1-A porosity zone was encountered at a measured depth of 5567', true vertical depth of 5535', with a horizontal displacement of approximately 7'. The top was picked on the lithology becoming predominately a good oolicastic to oomoldic limestone grainstone with a significant increase in the penetration rate. Due to the amount of oil and gas in the drilling fluid from the Northwest Lateral Leg #1 also in the 1-A zone, no increase in the background gas was noted. This oolicastic to oomoldic, slightly algal limestone grainstones marked the 1-A porosity zone and were continuous throughout the curve section in the 1-A porosity zone. The 1-A zone has an apparent thickness of almost 20' in this southeasterly direction.

The limestone grainstones of the 1-A zone in this southeasterly direction, are tan to light brown to cream, microcrystalline to very fine crystalline, with a granular to slightly microsucrosic matrix and were very slightly dolomitic. The grainstones have a very minor amount of anhydrite crystal growth in the oolicasts and molds as well as in the intercrystalline matrix and very rare scattered light brown chert fragments. This grainstone had a moderately good oomoldic to oolicastic fabric, with a moderately fair to moderately good oolitic to intercrystalline with a trace of algal porosity development. The sample show was fair to moderately good, with a trace of brown to light brown oil stain and had scattered black bitchimum* staining on the crystal faces and in the oolicasts and molds. The oolicastic to oomoldic to slightly algal grainstones had a fair bright to occasionally dull yellow fluorescence and a fair moderately fast to a trace fast streaming cut. Scattered within the porous limestone grainstone were thin very slightly oolitic, dense, occasionally anhydritic limestone packstones. These packstone fragments and laminations are cream to tan, occasionally white, cryptocrystalline to very slightly microcrystalline, slightly chalky to occasionally platy, clean and very slightly anhydritic. These packstones have no visible porosity or sample show.

The curve portion of the lateral was completed at a measured depth of 5632', true vertical depth 5547', at a horizontal displacement of 63', bearing 163 degrees, with an inclination of 92.5°, on October 16, 1998, near the middle of the 1-A porosity zone. The curve was landed 7' low to the proposed landing point due to the curve assembly not putting out the builds through the Lower Ismay and Gothic Shale needed to land on target. Even though the curve section was landed low to the target line, the landing point was in good oolicastic to oomoldic limestone porosity. At this point a trip was made to lay down the curve assembly and pickup the lateral assembly.

Drilling of the northwest lateral was resumed on October 17, 1998, near the middle of the Upper Desert Creek 1-A porosity zone of the Upper Paradox Formation. The lateral was slid for the first 325' in order to control the horizontal plane direction and to put the lateral assembly out far enough to begin rotating, and also in an attempt to control the rapidly dropping angle of the well path. The lateral was begun in the good oolicastic to oomoldic limestone grainstone facies. This limestone grainstone was a tan to light brown, some brown, microcrystalline to very fine crystalline, granular to microsucrosic, oolicastic to oomoldic, slightly dolomitic, with occasionally calcite and anhydrite cement and cast filling. These grainstones had a fair to good oolitic to intercrystalline porosity, a moderately good bright yellow fluorescence, a moderately fair light brown to brown oil stain, with trace to poor black bitchimum* stain, and a moderate to moderately fair fast to slow streaming cut. Increases in dense, very slightly oolitic, and occasionally chalky to platy packstone was noted when hard steaks were bumped and "glanced" off of, or penetrated.

As soon as the lateral portion of the well path was begun, the well path dipped downward at an average angle of 87.5 °. The lithology showed increasing amounts of algal material and Crinoid fossils, with a decrease in oolicastic to oomoldic material as the formation forced the well path downward, and a slow decrease in the amount and quality of the sample show. The well bore was finally forced aggressively upward at a measured depth of 5917', 5557' true vertical depth. A hard streak of less than 1' in thickness was penetrated from 5917' to 5959' measured depths and 5557' to 5557.3' true vertical depth. This thin hard streak was a very dense tight limestone packstone. The packstone was white to tan, cryptocrystalline to microcrystalline, chalky to platy on occasion, with scattered fossil fragments, and visible porosity or sample show. The well path was continued upward until reaching a measured depth of approximately 6100', 5549.2' true vertical depth and a horizontal displacement of 518', before being leveled. Through this interval from 5959' to 6100' the lithology slowly graded upwardly from the very fossiliferous algal limestone grainstone, with scattered oolitic material, to a very oolite rich algal limestone grainstone with decreasing Crinoid fossils. The sample shows throughout this interval became increasingly good in quality and quantity.

At the measured depth of 6100' as the well bore being rotated ahead, the formation appeared to again force the well path downward. As the well path reached a measured depth of 6230', 5553' true vertical depth, with a horizontal displacement of 650', the well path was again turned upward. The lithology of this interval was in the good oolitic algal limestone grainstones with only scattered oomoldic material, and predominately good visible porosity and a good sample show. The lateral from the horizontal displacement of 650' to 1100', remained in this oolitic algal limestone grainstone with scattered dense packstone fragment to inclutions, only rare Crinoid fossils, and predominately good visible porosity with a very good sample show. Through this interval true vertical depths of the lateral ranged from 5548' to 5553.5'. It was noted as the true vertical depth increased and dropped below 5550' the amount of oolitic material decreased and the amount of Crinoid fossil increased. As the Crinoid fossils increased there seemed to be a slight increased in the amount of dense oolitic limestone packstone fragment in the samples. This seems to indicate a possible transitional environment form restricted to more open marine.

As the lateral reached the horizontal displacement of 1100', true vertical depth of 5553.5' and a measured depth of 6690', the well path was oriented upward. With the well path being rotated and allowed to climb at a shallow angle which on occasion reached 93 °, before a short slide was made to control the rate of climb, the lithology of the lateral showed gradual upward change. As the true vertical depth of the lateral approached 5546', the amount of dense oolitic limestone packstone interclasts and the amount of Crinoid fossils seen in the samples decreased and the lithology became predominately an oolicastic to oomoldic and algal limestone grainstone. This lithology had a fair to good sample show as well as a fair to good visible porosity. Upon reaching a measured depth of 7060', 5541' true vertical depth the well bore appeared to approach and scrap the top of the 1-A porosity bench. From the measured depth of 7060' to the lateral's termination at 7190', 5541' true vertical depth, the lateral remain approximately level while bumping and scraping the top of the 1-A zone. The lithology of the last 130' of the lateral remained in the good oolicastic to oomoldic, slightly algal limestone grainstone with a fair sample show in the oolitic to algal and intercrystalline porosities.

After determining the distance between the end of the lateral at the proposed termination at a horizontal displacement of 1700' and the offsetting R.U. 19-42 well to be 206', the decision was made to terminate the lateral early with a horizontal displacement of 1600'. This was to keep a distance of 300' from the R.U. 19-42 well and hopefully avoid any communication between injectors after or during the acidization processes during completion. There for upon reaching a measured depth of 7190', 5541.2' true vertical depth, and a horizontal displacement of 1600.5', on October 18, 1998, the lateral was terminated.

In tracking the lateral in this northwesterly direction, the oolicastic to oomoldic limestone grainstone porosity had good sample shows, which remained fairly consistent until reaching a true vertical depth of 5550', early in the lateral. Then the lithology became increasingly algal with

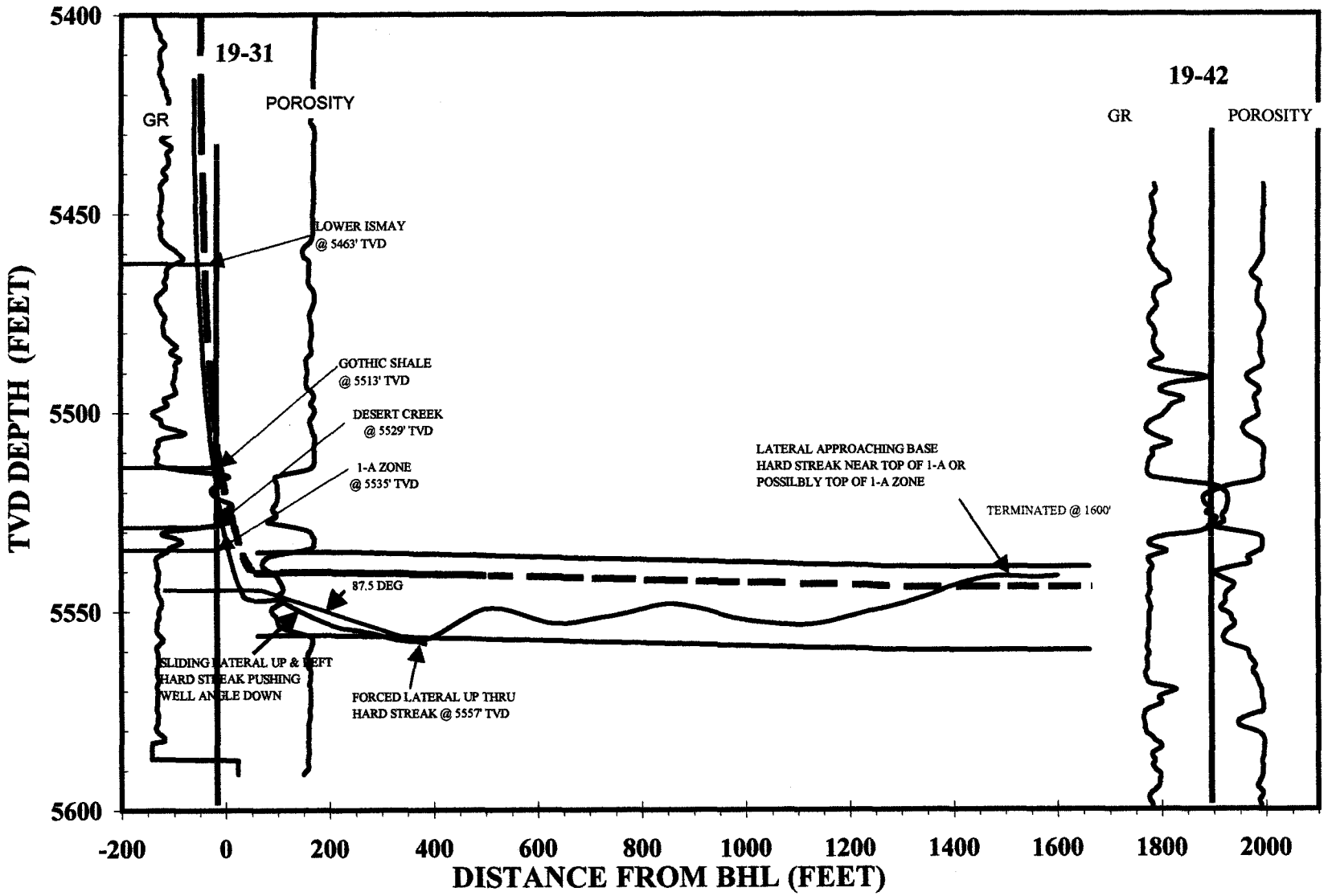
abundant Crinoid fossils indicating a change in the depositional environment. Later in the lateral this depositional horizon change appeared to trend upward as the lateral continued toward it's termination. The maximum top of this horizon seen in the lateral appeared to be at a true vertical depth of 5546'. These oolicastic to oomoldic limestone grainstones near the top of the 1-A porosity bench, showed predominately good oolitic to intergranular porosity, with only minor decreases in the amount of porosity and increases in the tight dense limestone packstone, when the top or base of the zone was encountered. The predominately algal limestone grainstone with abundant Crinoid fossils noted below the oolicastic to oomoldic limestone grainstones, were also consistent throughout the lateral, below the change in depositional horizon. These predominately algal limestone grainstones had a fair to good intercrystalline to algal porosity as well as a fair to good sample show. The only significant decreases in porosity or sample show was when the thin tight limestone packstone was penetrated early in the lateral, as well as when the top of the 1-A zone was bumped and scraped. The lateral at its termination, was approximately 2' above the proposed target, and in the good oolicastic to oomoldic, slightly algal limestone grainstone. The lateral deviated from the proposed target line by as much as 17' and was never out of fair porosity or out of the 1-A zone. The well path was consistently below the proposed well path, until reaching a horizontal displacement of approximately 1400', when the well path rose above the proposed well and remained to the laterals termination. Of note was the very thin tight streak, which force the well path downward immediately upon the start of the lateral portion well.

From the beginning of the 19-31 southeasterly lateral Leg #2 to its termination on October 18, 1998, at a measured depth of 7190', 5541.2' true vertical depth and a horizontal displacement of 1600', the porosities throughout appear to be well enough developed to enhance the overall performance of this production well. The intervals below the apparent change in depositional environment, from the oolicastic to oomoldic, slightly algal limestone grainstones to the very algal, slightly oolitic limestone grainstones with abundant Crinoid fossils will contribute to the overall performance, after acidization and returned production.

*The black residual staining has been called by Dr. Dave Eby & others as "bitchimum" and is also known as "dead oil" ("dd o stn" on mud logs). This staining is associated with the movement of oil over long periods of time and is a good indicator of producable hydrocarbons when associated with productive porosities, but can also be found in porosities that have been filled by anhydrites and other material at later dates.

ROCKY MOUNTAIN GEO-ENGINEERING CORP. 2450 INDUSTRIAL BLVD. GRAND JUNCTION, CO 81505 (970) 243-3044

MOBIL, Ratherford #19-31, Southeast Lateral



MOBIL

RATHERFORD UNIT #19-31
NW HORIZONTAL LATERAL LEG #1
UPPER 1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 19, T41S, R24E
SAN JUAN, UTAH

GEOLOGY REPORT
prepared by
DAVE MEADE
PASON/ROCKY MOUNTAIN GEO-ENGINEERING CORP.
GRAND JUNCTION, COLORADO
(970) 243-3044

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WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #19-31 NW HORIZONTAL LATERAL LEG #1 IN 1-A POROSITY BENCH, DESERT CREEK
LOCATION:	SECTION 19, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB:4777' GL:4763'
SPUD DATE:	10/10/98
COMPLETION DATE:	10/14/98
DRILLING ENGINEER:	BENNY BRIGGS
WELLSITE GEOLOGY:	DAVE MEADE / LUKE TITUS
MUDLOGGING ENGINEERS:	DAVE MEADE / LUKE TITUS
CONTRACTOR: **TOOLPUSHER:**	BIG "A" RIG 25 J. DEES
HOLE SIZE:	4 ¾"
CASING RECORD:	SIDETRACK IN WINDOW AT 5453' MEASURED DEPTH
DRILLING MUD: **ENGINEER:** **MUD TYPE:**	M-I RON WESTENBURG FRESH WATER & BRINE WATER W/ POLYMER SWEEPS
DIRECTIONAL DRILLING CO:	SPERRY-SUN
ELECTICAL LOGGING:	NA
TOTAL DEPTH:	7046' MEASURED DEPTH; TRUE VERTICAL DEPTH- 5524.5'
STATUS:	PREPARING WELL FOR SE LATERAL #2

DRILLING CHRONOLOGY
RATHERFORD UNIT #19-31
1-A NW HORIZONTAL LATERAL LEG #1

DATE	DEPTH	DAILY	ACTIVITY
10/10/98	0'	0'	RIG DOWN-MOVE RIG TO R.U. #19-31 LOCATION- RIG UP-NIPPLE UP BOP-PRESURE TEST-TIH & STRAP DC & DP
10/11/98	0'	0'	STRAP PIPE-TIH-LATCH ON TO RBP-RELEASE-TOH-LD PLUG-R.U. WIRELINE-RIH W/PACKER-SET WIRE LINE PACKER @ 5461-R.D. WIRE LINE-P.U. ANCHOR LATCH-TIH-LATCH INTO ANCHOR-R. U. GYRO DATA-RUN GYRO & ORIENT ANCHOR-RIG DOWN GYRO-SHEAR ANCHOR LATCH-PUMP LCM-TOH – L.D. ANCHOR LATCH- P.U. WHIPSTOCK #1 & STARTER MILL-ORIENT-TIH
10/12/98	5461'	17'	SET WHIPSTOCK @ 5444'- MILL W/STARTER MILL 5443' TO 5446'-TOH-L.D. STARTER MILL-P.U. WINDOW MILL & WATER MELON MILLS-WORK ON HYDROMATIC-TIH W/O HYDROMATIC-MILL W/WINDOW MILLS 5446' TO 5449' REPLACE "O" RING IN SWIVEL-MILL 5449' TO 5453'- CIR SWEEP & PUMP 10 BBLS BRINE-L.D. 13 JTS PIPE-TOH-L.D. MILLS-P.U. CURVE ASSEM.-ORIENT & TEST-P.U. 10 JTS PH-6 PIPE-TIH-R.U. GYRO DATA & RIH W/ GYRO-TIME DRLG 5453' TO 5455'- DIR DRLG & WIRELINE SURVEYS
10/13/98	5460'	216'	DIR DRLG & WIRELINE SURVEYS TO 5490'-PULL GYRO & RIG DOWN GYRO DATA-DIR DRLG & SURVEYS TO 5615' (T.D. CURVE)-PUMP SWEEP & CIR OUT SPLS-PUMP 10 BBLS BRINE-L.D. 54 JTS AOH-TOH-L.D. CURVE ASSEM.-P.U. LATERAL ASSEMBLY- ORIENT & TEST-P.U. 40 JTS PIPE-TIH-DIR DRLG & SURVEYS
10/14/98	5676'	1370'	DIR DRLG & SURVEYS TO 7046' (TD LATERAL #1)-PUMP SWEEP & CIR SPLS-PUMP 10 BBLS BRINE-DISPLACE HOLE W/200 BBLS BRINE-TOH
10/15/98	7046'	TD LEG #1	TOH-SEE LEG #2 GEOLOGY REPORT FOR DETAILS

DAILY ACTIVITY

Operator: MOBIL
Well Name: RATHERFORD UNIT #19-31 NW 1-A HORIZONTAL LATERAL LEG #1

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
10/10/98	0'	0'			
10/11/98	0'	0'			
10/12/98	5461'	17'			
10/13/98	5460'	216'			
10/14/98	5676'	1370'			
10/15/98	7046'	TD LEG #1			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 NW 1-A HORIZONTAL LATERAL LEG #1

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1	4 3/4"	STC	MF-3P	5453'/ 5615'	162'	11	14.73
(RR) #2	4 3/4"	STC	MF-3P	5615'/ 7046'	1431'	25	57.24

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 NW 1-A HORIZONTAL LATERAL LEG #1

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	PH	WL	CK	CHL	CA	SD	OIL	WTR
10/10/98	0'	NO	CHECK	-	-	-	-	-	-	-	-	-	-	-
10/11/98	5461'	8.4	26	1	1	0/0	8.0	NC	NC	1000	80	0%	0%	100%
10/12/98	5444'	8.4	26	1	1	0/0	8.0	NC	NC	3000	200	0%	0%	100%
10/13/98	5548'	8.5	26	1	1	0/0	12.5	NC	NC	10500	80	1%	0%	99%
10/14/98	6436'	8.5	26	1	1	0/0	11.5	NC	NC	12500	40	1%	9%	90%

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-31, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5300.00	0.84	265.14	5299.17	6.55 N	76.02 W	62.45	0.00
5444.00	0.93	269.40	5443.15	6.45 N	78.24 W	64.08	0.08
5453.00	4.60	310.00	5452.14	6.68 N	78.59 W	64.50	43.78
5463.00	9.10	310.30	5462.07	7.45 N	79.50 W	65.69	45.00
5473.00	14.60	310.40	5471.85	8.78 N	81.07 W	67.74	55.00
5483.00	20.30	310.50	5481.39	10.72 N	83.35 W	70.74	57.00
5493.00	25.60	310.50	5490.59	13.26 N	86.31 W	74.64	53.00
5503.00	30.70	310.90	5499.41	16.33 N	89.89 W	79.35	51.03
5513.00	36.20	312.50	5507.75	20.00 N	94.00 W	84.86	55.70
5523.00	40.80	313.80	5515.57	24.26 N	98.53 W	91.07	46.70
5533.00	45.00	314.10	5522.89	28.98 N	103.43 W	97.86	42.05
5543.00	50.30	315.00	5529.63	34.17 N	108.70 W	105.23	53.41
5553.00	56.30	315.00	5535.60	39.84 N	114.36 W	113.21	60.00
5563.00	62.30	315.40	5540.71	45.93 N	120.42 W	121.77	60.10
5573.00	68.20	315.80	5544.89	52.42 N	126.77 W	130.81	59.11
5583.00	73.80	316.00	5548.14	59.21 N	133.35 W	140.21	56.03
5615.00	90.40	310.50	5552.53	80.82 N	156.36 W	171.73	54.58
5642.00	90.90	308.80	5552.22	98.05 N	177.15 W	198.73	6.56
5673.00	92.50	311.70	5551.30	118.06 N	200.80 W	229.71	10.68
5705.00	91.70	311.80	5550.13	139.36 N	224.65 W	261.67	2.52
5737.00	92.20	312.40	5549.04	160.80 N	248.38 W	293.63	2.44
5769.00	93.30	313.40	5547.51	182.56 N	271.80 W	325.55	4.64
5800.00	94.30	313.80	5545.45	203.89 N	294.20 W	356.42	3.47
5831.00	92.80	313.10	5543.53	225.16 N	316.66 W	387.31	5.34
5863.00	90.40	313.60	5542.64	247.12 N	339.92 W	419.24	7.66
5895.00	90.50	311.00	5542.39	268.65 N	363.58 W	451.21	8.13
5926.00	89.30	310.10	5542.44	288.81 N	387.14 W	482.21	4.84
5958.00	91.40	311.70	5542.25	309.76 N	411.32 W	514.20	8.25
5989.00	92.20	311.50	5541.27	330.33 N	434.49 W	545.17	2.66
6021.00	92.10	311.70	5540.07	351.56 N	458.40 W	577.14	0.70
6053.00	91.80	312.00	5538.98	372.90 N	482.23 W	609.10	1.33
6085.00	92.50	312.50	5537.78	394.40 N	505.90 W	641.05	2.69
6117.00	92.10	312.90	5536.50	416.08 N	529.40 W	672.99	1.77
6149.00	91.70	312.90	5535.44	437.85 N	552.82 W	704.93	1.25
6180.00	91.90	313.10	5534.46	458.98 N	575.48 W	735.88	0.91
6212.00	91.60	312.70	5533.49	480.76 N	598.91 W	767.82	1.56
6243.00	92.50	312.50	5532.38	501.73 N	621.72 W	798.77	2.97
6275.00	92.60	312.40	5530.95	523.30 N	645.31 W	830.71	0.44

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-31, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6308.00	91.10	312.50	5529.89	545.56 N	669.64 W	863.66	4.56
6340.00	91.80	312.00	5529.08	567.07 N	693.32 W	895.62	2.69
6371.00	91.10	311.80	5528.29	587.77 N	716.39 W	926.60	2.35
6403.00	89.90	311.10	5528.02	608.95 N	740.37 W	958.58	4.34
6435.00	91.10	310.40	5527.74	629.84 N	764.61 W	990.58	4.34
6467.00	91.70	310.30	5526.95	650.55 N	788.99 W	1022.57	1.90
6499.00	91.90	310.40	5525.95	671.26 N	813.37 W	1054.55	0.70
6530.00	90.40	310.80	5525.33	691.43 N	836.90 W	1085.54	5.01
6562.00	88.90	309.90	5525.52	712.14 N	861.29 W	1117.54	5.47
6594.00	88.80	310.10	5526.17	732.71 N	885.79 W	1149.53	0.70
6626.00	89.60	310.10	5526.61	753.32 N	910.27 W	1181.53	2.50
6657.00	90.20	310.30	5526.67	773.33 N	933.95 W	1212.53	2.04
6689.00	90.00	309.40	5526.61	793.83 N	958.51 W	1244.53	2.88
6720.00	91.80	310.10	5526.12	813.65 N	982.34 W	1275.52	6.23
6752.00	93.00	310.60	5524.78	834.35 N	1006.71 W	1307.49	4.06
6783.00	90.60	309.20	5523.81	854.22 N	1030.48 W	1338.48	8.96
6815.00	87.90	307.80	5524.23	874.14 N	1055.52 W	1370.46	9.50
6847.00	88.20	306.70	5525.32	893.50 N	1080.97 W	1402.40	3.56
6879.00	88.00	305.90	5526.38	912.43 N	1106.75 W	1434.32	2.58
6910.00	89.50	305.70	5527.05	930.56 N	1131.88 W	1465.23	4.88
6942.00	90.40	305.30	5527.08	949.14 N	1157.94 W	1497.13	3.08
6974.00	91.20	304.80	5526.64	967.52 N	1184.13 W	1529.01	2.95
7006.00	91.80	304.10	5525.80	985.61 N	1210.51 W	1560.84	2.88
7015.00	91.80	303.80	5525.52	990.64 N	1217.97 W	1569.79	3.33
7046.00	91.80	303.80	5524.54	1007.88 N	1243.72 W	1600.59	0.00

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET.
N/E COORDINATE VALUES GIVEN RELATIVE TO WELL HEAD.
TVD COORDINATE VALUES GIVEN RELATIVE TO WELL HEAD.
THE VERTICAL SECTION ORIGIN IS WELL HEAD.
THE VERTICAL SECTION WAS COMPUTED ALONG 310.00 (TRUE).
CALCULATION METHOD: MINIMUM CURVATURE.

LAST SURVEY ENTERED IS EXTRAPOLATED TO BIT AT TD

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 NW 1-A HORIZONTAL LATERAL LEG #1

DEPTH	LITHOLOGY

5453.00 5460.00 "LS, ltbn-crm-tn-ltbybn-ofwht,crpyt-mic-occ vf xln,sl plty,NFSOC,sl arg/anhy,DOL-gybn-mgybn,w/abnt CMT frag"

5460.00 5470.00 "LS, dkbn-mbn-ltbn-dkgybn-crm-tn,mic-crypt xln,dns-tt mtx,sl dol to dol,sl plty,occ cln,rthy,rr foss frgs,rthy,arg grdg to mbn mfrm-sft sl dol SH,pr-intrxln/compact xln to rthy fab POR,NFSOC"

5470.00 5480.00 "LS,dkgybn-dkbn-ltbn-crm-tn,crypt-mic xln,mdns-tt mtx,scat dkbn-dkgybn micsuc DOL,chlky/cln,rthy/arg,dkbn-bn-trnsl CHT frgs,anhy,intrxln/compact xln to rthy fab POR,NFSOC"

5480.00 5490.00 "LS tan-bf,crm,occ ltgybrn,micxl-crpxl,dns,chk,sl anhy,dol,mrly,arg,tt,NFSOC,w/scat brn-dkgybrn micxl DOL occ crpxl lmy arg mrly ip tt NFSOC,rr thn blk-dkgy sl carb SH lams & CHT frag"

5490.00 5510.00 "LS tan-ltbrn-brn,occ crm-ltgy,crpxl-micxl,bcmg slty-v slty,dns,rthy,sl chk,anhy,v sl mrly-dol ip,tt-v rr intxl POR,NFSOC,w/intbd DOL brn-dkbrn,crpxl-micxl,arg-sl slty,lmy,occ mrly-shly,tt-v rr intxl POR,v p FLOR,NSOC,rr thn blk-dkgy SH,rr CHT frag"

5510.00 5520.00 "LS AA,incr ltgy-slty,rr mic fos,mrly ip,occ grdg to v lmy MRLST,tt-rr intxl POR,NFSOC,scat DOL AA,mrly ip,v rr intxl POR,NFSOC,tr smky gy-gybrn-brn CHT frag,rr blk-dkgy calc-dol sl carb SH"

5520.00 5540.00 "SH dkgy-blk,occ v dkgybrn,sbblky,occ sbplty-fis,calc-dol,mica,sl slty,carb-sooty,scat thn ltgy-tan crpxl LS & tan-brn-gybrn micxl DOL frag w/NFSOC "

5540.00 5550.00 "SH AA,bcmg pred crm-tan-ltbrn-brn LS crpxl-micxl,grdg to vfxl-sl ool LS GRNST,rr intxl-sl ool POR,v rr FLOR-STN-CUT,thn brn micxl DOL-rthy-lmy sl slty tt,NFSOC,rr CHT frag"

5550.00 5570.00 "LS crm-tan-ltbrn,occ wh-brn,crpxl-vfxl,occ gran-micsuc,bcmg pred ooc-oom LS GRNST,w/scat alg mat,occ anhy,v rr DOL cmt,mg-g intxl-fr ool-v rr alg POR,mfr-mg dull-bri yeL FLOR,fr-mg brn-tr blk STN,mfr-mg slow-mod fast stmg mlky CUT"

5570.00 5580.00 "LS pred ooc-oom sl alg LS GRNST AA,POR-FOR-STN-CUT AA,w/scat intbd crm-tan,occ wh,crpxl-micxl LS PKST dns sl ool occ chk-plty anhy ip tt,NFSOC"

5580.00 5600.00 "LS tan-brn,occ wh-crm,crpxl-vfxl,occ gran-micsuc,bcmg pred ooc-oom LS GRNST,sl alg mat,incr dns sl chk-plty dns PKST incl,anhy ip,rr DOL cmt,fr-mg intxl-ool POR-v rr alg POR,mfr-mg dull-bri yeL FLOR,fr brn STN-tr blk STN,fr slow-tr mod fast stmg mlky CUT"

DEPTH		LITHOLOGY

5600.00 5615.00 "LS tan-ltbrn,occ brn-rrwh-crm,micxl-vfxl,gran-micsuc,pred sl ooc-oom GRNST,w/scat dns tan occ anhy PKST-rr Crin fos,abnt ANHY xl in POR,mfr DOL rich cmt,fr intxl-v rr ool POR,mg dull-tr bri yel FLOR,mfr ltbrn STN-rr blk dd o STN,mfr-fr slow-mod fast CUT"

5615.00 5630.00 "LS tn-crm-ltbn-ofwht-occ ltgy,mic-vf xln,grn-tr microsuc mtx,pred mdns mtx,ool,foss,intraclastic,scat ANHY xls-anhy POR,chlky,scat dns-tt sl plty PKST,pred GRNST;even dul-spty mbri/bri yelgld FLOR,tr slo sl dif CUT,tr-ltbn mtx o STN,pred m-intrxln POR"

5630.00 5640.00 "LS AA,intraclastic to sl ool to ool,sl dol to dol rich cmt,anhy cmt-tr ANHY,wk-tr slo strmg CUT,dul-mbri yel FLOR,rr blk dd o STN w/tn-tr ltbn mtx o STN"

5640.00 5660.00 "LS tn-occ ltbn-ofwht,tr crypt xl,mic-vf xln,tt-dns sl ool/plty occ chlky/anhy PKSTw/tr microsuc sl ool/ool intraclastic sl dol GRNST,pred intrxln to occ compact xlnw/sme anhy fab POR,FLOR AA,CUT AA,pr-o STN"

5660.00 5680.00 "LS,tn-crm-ltbn-occ ofwht,sl mott,mic-vf xln,mdns-t mtx,chlky/anhy,sl ool to intraclastic GRNST w/al plty dns-tt occ anhy PKST,incr in ltbn o STN,m-slo strmg sl dif CUT,mbri yelgld FLOR;pred interxln w/rr oom fab POR"

5680.00 5690.00 "LS AA,pred mf-f intrxln w/tr oom & compact xln fab POR,mbri-spty bri yelgld FLOR,rr blk dd o STN w/mf-ltbn mtx o STN;decr in ANHY xls/anhy POR,tr foss frgs/ool/pel"

5690.00 5710.00 "LS,ltbn-tn-crm,sl mott-mott,mic-vf xln,rr crypt xln,mdns-dns mtx,sme grn-microsuc mtx,tr foss frgs,tr ofwht chlky mat,rr ANHY xls,rr calc frac flgs,rr-tr sl alg develop;pred interxln to tr pr oom w/rr vug fab POR"

5710.00 5730.00 "LS AA,pred mf-f intrxln to tr pr-scat m oom fab POR,rr sl alg/vug POR,fast dif to f-slo strmg CUT,mf-f ltbn-rr bn/rr blk dd o STN,even bri yel FLOR"

5730.00 5750.00 "LS,ltbn-tn-crm,occ bn,sl mott-mott,mic-vf xln,mdns mtx,pred sl ool to ool sl oom GRNST & sl ool dns occ anhy/chlky PCKST,sl dol,rr foss frgs,fri;pred mf-f intrxln to pr oom tr vug fab POR,FLOR AA,CUT AA,o STN AA"

5750.00 5770.00 "LS,ltbn-mbn-crm-tn,mic-vf xln,sme tt-pred mdns mtx,v sl dol,sl rthy,pred ool sl oom GRNST w/dns-tt occ chlky/anhy w/LS intraclasts,rr foss,v rr ltbn CHT frgs,dif CUT,mf-f mbn o STN,mbri-bri yelgld FLOR,pred mf-f intrxln to pr-reduced oom w/ANHY POR"

5770.00 5790.00 "NO RETURNS; LS AA"

DEPTH		LITHOLOGY

5790.00 5810.00 "LS mbn-ltbn-tn-crm-occ ofwht,occ mott,mdns-grn-tr microsuc,intraclastic ip,ool ip,fri,sl anhy/rr ANHY xls-sme ANHY POR,rr calc frac flgs,tr dns-tt PKST;fst dif-g slo strmg mlky ring CUT,even bri yelgld FLOR,pred mbn o STN w/tr blk dd o STN res"

5810.00 5840.00 "LS,ltbn-mbn-tn,occ mott,mic-vf xln,grn-microsuc,mdns-tt mtx,pred sl ool pssbly intrclstc sl oom poss sl alg GRNST & dns-tt plty to sl plty chlky occ anhy sl ool-ool PCKST,rr tn-ltbn CHT frgs,rr ANHY xls-tr ANHY POR,rr foss frgs,tr crm-trnsl calc frac flgs;pred mf-g intrxln to pr-reduced oom w/sl vu fab POR,f-even mbri-bri yelgld FLOR,fst dif to f-slo strmg milky ring CUT,mf-f ltbn-mbn o STN w/scat blk dd o STN res"

5840.00 5860.00 "LS AA,pred v sl ool-alg GRNST,abnt Crin fos,scat dns tt PKST frag,v sl DOL cmt,occ anhy-scat ANHY xl-POR fl,mfr-mg intxl-alg-tr ool POR,mg bri yel FLOR,mfr-fr ltbrn-brn STN-rr spty blk dd o STN,mfr-mfg mod fast-fast stmg CUT "

5860.00 5880.00 "LS tan-ltbrn-brn,rr crm,micxl-vfxl,gran-micsuc,pred v fos-sl alg-ool GRNST,scat dns sl anhy-fos PKST,occ Crin fos,rr-sl tr DOL cmt-scat ANHY xl-POR fl,fr-mg intxl-tr alg POR,mg bri yel FLOR,fr brn-ltbrn STN,rr spty blk dd o STN,fr-mg mod fast-fast CUT"

5880.00 5900.00 "LS AA,sl alg-v sl oom fos GRNST,bcmg "FOS HASH",scat blk carb SH fl styl,rr tt-pred fr-mg intxl-mfr alg POR,mg bri yel FLOR,STN-CUT AA"

5900.00 5930.00 "LS tan-ltbrn-brn,rr crm,micxl-vfxl,gran-micsuc,pred v fos-alg-v sl ool GRNST,scat dns sl anhy-fos PKST,abnt Crin fos,rr-sl tr DOL cmt-scat ANHY xl-POR fl,fr-mg intxl-tr alg POR,mg bri yel FLOR,fr brn-ltbrn STN,rr spty blk dd o STN,fr-mg mod fast-fast CUT"

5930.00 5940.00 "LS pred GRNST AA,incr dns v sl fos sl anhy v sl plty PKST frag-incl,mfr-fr intxl-v rr alg POR,fr dull-bri yel FLOR,mfr brn STN-v rr spty blk dd o STN,tr-mfr mod fast-fast stmg mlky CUT"

5940.00 5990.00 "LS tan-ltbrn-brn,rr crm,micxl-vfxl,gran-micsuc,rr suc,pred sl ooc-oom-tr alg GRNST w incr amnt ooc-oom fab,tr scat dns sl anhy occ chk-plty v sl fos PKST frag,rr scat ANHY xl-POR fl,tr DOL rich cmt,rr scat styl,scat Crin-mic fos,occ tt-mg intxl-fr alg-mfr ool POR,mfr-mg bri-rr dull yel FLOR,mfr-fr lt-dkbrn STN-mfr blk dd o STN,mfr-mg mod fast-fast stmg mlky CUT"

5990.00 6010.00 "LS incr brn-dkbrn,AA,occ suc,pred mfr ooc-oom v sl alg GRNST,decr PKST-Crin frag,POR-FLR-STN-CUT AA"

6010.00 6020.00 "LS tan-ltbrn-brn,rr crm,micxl-vfxl,gran,micsuc-suc ip,pred ooc-oom-sl alg GRNST,tr scat dns sl anhy occ chk-plty v sl fos PKST frag,rr scat ANHY xl-POR fl,tr DOL rich cmt,rr CHT frag,tr Crin-mic fos,tt-mg intxl-fr ool-sl alg POR,FLOR-STN-CUT AA "

DEPTH	LITHOLOGY

6020.00 6030.00 "LS AA,pred v g ooc-oom GRNST,w/rr alg mat-Crin frag,mg ool-intxl POR,n-v p vis alg POR,mg bri yel FLOR,fr-mg ltbrn-brn STN,tr blk dd o STN,fr-mg mod fast-fast stmg mlky CUT"

6030.00 6050.00 "LS AA,rr-sl tr Crin fos,mfr alg mat,fr-mg ool-intxl-fr alg POR,FLOR-STN-CUT AA"

6050.00 6090.00 "LS lt-mbrn,tr tan-crm,micxl-vfxl,gran-suc,pred ooc-oom-sl alg GRNST,scat dns sl anhy occ chk-plty v sl fos PKST frag,rr scat ANHY xl-POR fl,tr DOL rich cmt,rr mic fos,fr-mg intxl-ool-sl alg POR,mg bri yel FLOR,g brn-mbrn STN-tr blk dd o STN,mg fast CUT"

6090.00 6100.00 "LS AA,POR-FLOR-STN-CUT AA"

6100.00 6120.00 "LS tan-brn,occ mbrn,micxl-vfxl,gran-suc,pred ooc-oom v sl alg GRNST,rr scat dns occ anhy PKST,rr scat Crin fos,v sl DOL rich cmt,occ ANHY xl-rr POR fl,mg intxl-ool-rr alg POR,mg bri yel FLOR,g m-dkbrn STN-rr-tr blk dd o STN,mg mod fast-fast stmg mlky CUT"

6120.00 6140.00 "LS AA,pred GRNST AA,sl incr dns tan-bf PKST AA,n-v rr Crin fos,rr bf CHT frag,mg-g POR-FLOR-STN-CUT AA"

6140.00 6170.00 "LS tan-brn,occ mbrn,micxl-vfxl,gran-suc,pred ooc-oom v sl alg GRNST,rr scat dns occ anhy PKST,rr scat Crin fos,v sl DOL rich cmt,occ ANHY xl-rr POR fl,mg intxl-ool-rr alg POR,mg bri yel FLOR,g m-dkbrn STN-rr-tr blk dd o STN,mg mod fast-fast stmg mlky CUT"

6170.00 6190.00 "LS lt-dkbrn,occ tan,micxl-vfxl,gran-suc,pred ooc-oom GRNST,rr scat dns occ anhy PKST,rr sl alg mat,v sl DOL rich cmt,occ ANHY xl-rr POR fl,mg intxl-ool-rr alg POR,mg bri yel FLOR,g m-dkbrn STN-sl tr blk dd o STN,mg mod fast-fast stmg mlky CUT"

6190.00 6230.00 "LS pred GRNST AA,scat dns v sl fos PKST AA,mg intxl-ool POR-v rr alg POR,mg bri yel FLOR,mg m-dkbrn STN-tr spty blk dd o STN,mg mod fast-fast stmg mlky CUT"

6230.00 6250.00 "LS tan-brn,occ mbrn,micxl-vfxl,gran-suc,pred ooc-oom v sl alg GRNST,rr scat dns occ anhy PKST,rr scat Crin fos,v sl DOL rich cmt,occ ANHY xl-rr POR fl,mg intxl-ool-rr alg POR,mg bri yel FLOR,g m-dkbrn STN-rr-tr blk dd o STN,mg mod fast-fast stmg mlky CUT"

6250.00 6270.00 "LS AA,mg-g intxl-ool POR,mg bri-v rr dull yel FLOR,g lt-dkbrn STN,tr blk dd o STN,mg mod fast-fas stmg mlky CUT"

6270.00 6290.00 "LS AA,v sl incr intxl POR,fr ool POR,FLOR-STN-CUT AA"

6290.00 6320.00 "LS brn-mbrn,occ dkbrn-tan,micxl-vfxl,gran-suc,pred ooc-oom GRNST,w/v rr ANHY xl-POR fl,rr DOL rich cmt,scat dns sl ool anhy PKST frag,mg-g intxl-ool POR,mfr-fr bri-rr dull yel FLOR,g brn-tr blk STN,mg-g mod fast-fast stmg mlky CUT"

DEPTH		LITHOLOGY

6320.00 6340.00 "LS AA,incr ool-intxl-v rr alg POR,fr-mg bri-v rr dull yel FLOR,fr-g brn-dkbrn STN,tr blk dd o STN,mg mod fast-fast stmg mlky CUT"

6340.00 6380.00 "LS brn-mbrn,occ dkbrn-tan,micxl-vfxl,gran-suc,pred ooc-oom GRNST,rr ANHY xl-POR fl,sl DOL rich cmt,tr dns sl ool anhy rr mic fos PKST frag,mg-g intxl-fr ool POR,fr bri-rr dull yel FLOR,mfr-fr brn STN-rr blk dd o STN,mg-g mod fast-fast stmg mlky CUT"

6380.00 6420.00 "LS crm-tan-m-dkbrn,pred ooc-oom GRNST AA,scat dns sl ool occ chk PKST frag,rr ANHY xl,POR-FLOR-STN-CUT AA"

6420.00 6460.00 "LS crm-tan,ltbrn-tr mbrn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,abnt dns v sl ool anhy occ chk-plty PKST frag,rr ANHY xl,sl dol cmt,tt-mg intxl-ool POR,tr-mg dull-bri yel FLOR,mfr-fr ltbrn-rr blk STN,mfr-mg slow-fast stmg mlky CUT"

6460.00 6500.00 "LS AA,pred intbd ooc-oom GRNST & dns sl ool v sl sil occ anhy PKST frag,tt-mg ool-fr intxl POR,tr dull-fr bri yel FLOR,mfr-fr lt-mbrn STN,rr-tr blk dd o STN,fr-mg slow-mod fast stmg mlky CUT"

6500.00 6520.00 "LS AA,w/sl incr dns v sl ool anhy PKST frag,mfr-fr intxl-ool POR,mfr bri-tr dull yel FLOR,tr-mfr ltbrn-brn STN,rr spty blk dd o STN,fr slow-tr mod fast stmg mlky CUT"

6520.00 6560.00 "LS crm-tan,tr lt-mbrn,crpxl-vfxl,gran-micsuc ip,intbd ooc-oom GRNST & dns v sl ool anhy occ chk-plty tt PKST frag,tr ANHY xl-POR fl,sl dol cmt,tt-fr intxl-ool POR,fr bri-tr dull yel FLOR,mfr ltbrn-brn STN-rr blk dd o STN,fr slow-mfr fast stmg mlky CUT"

6560.00 6590.00 "LS AA,incr amnt dns sl ool PKST frag,incr ANHY xl,v rr trnsl-bf CHT frag,decr ool-intxl POR,rr frac POR,fr bri-rr dull yel FLOR,tr-mfr ltbrn STN-rr spty blk dd o STN,mfr-fr mod fast-fr slow stmg mlky CUT"

6590.00 6610.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,gran-micsuc,intbd ooc-oom GRNST & dns v sl ool occ anhy PKST,scat ANHY xl-POR fl,v rr bf CHT frag,tt ip,fr ool-intxl POR,mfr-fr bri-tr dull yel FLOR,fr lt-mbrn-rr blk STN,tr slow-fr mod fast-tr fast stmg mlky CUT"

6610.00 6640.00 "LS AA,pred tan,pred dns sl ool PKST AA,decr ooc-oom GRNST,mfr-fr intxl-tr ool POR,mfr-fr spty bri-tr dull yel FLOR,mfr ltbrn-tr brn STN-rr spty blk dd o STN,fr slow-mod fast-tr fast stmg mlky CUT"

6640.00 6670.00 "LS AA,pred tan,pred dns sl ool PKST AA,w/ tr-mfr amnt ooc-oom GRNST,fr intxl-ool POR,fr spty bri-tr dull yel FLOR,mfr ltbrn-tr brn STN-rr spty blk dd o STN,fr slow-mod fast-tr fast stmg mlky CUT"

6670.00 6700.00 "LS tan,ltbrn-brn ip,crpxl-vfxl,gran-micsuc ip,intbd ooc-oom GRNST & decr dns v sl ool occ anhy PKST,rr ANHY xl-POR fl,v rr bf CHT frag,dol ip,fr intxl-mfr ool POR,fr bri-tr dull yel FLOR,fr lt-mbrn-rr blk STN,tr slow-fr mod fast-mfr fast stmg mlky CUT"

DEPTH	LITHOLOGY

6700.00 6730.00 "LS ltbn-tn-crm,sl mott,mic-vf xln,mdns-grn-tr microsuc mtx,rr ANHY xls,pred ool sl oom GRNST w/dns-tt sl ool occ sl plty PKST,rr buf CHT frgs;pred reduced to pr-oom occ ooc to f-interxln-ool fab POR,g-bri yelgld FLOR,fst dif CUT,pred mf-f ltbn o STN"

6730.00 6760.00 "LS AA,incr in pr-mf oom/ooc fab POR w/f-intrxln to ool fab POR,mbri-bri yelgld FLOR,fst dif-f-slo strmg mlky ring CUT,mf-f ltbn o STN & tr blk dd o STN res"

6760.00 6790.00 "LS,ltbn-tr bn-crm-tn,mott,mic-vf xln,grn-microsuc-mdns mtx ip,pred ool oom/ooc GRNST w/rr dns ool PKST,sl dol to dol cmt ip,v sl anhy,tr pel;pred pr-mf oom/ooc fab POR & f-intrxln-ool POR,FLOR AA,o STN AA,CUT AA"

6790.00 6820.00 "LS,ltbn-tn-crm,occ mbn,sl mott-mott,mic-vf xln,mdns mtx ip,grn-microsuc mtx,rr tt mtx,pred oom/ooc ool GRNST,sme dns PKST,v sl dol w/dol cmt,ool/rr pel;pred f-intrxln-ool to reduced-f oom/ooc fab POR,fst dif to mg-slo strmg mlky ring CUT,f-ltbn-bn o STN"

6820.00 6850.00 "LS AA,pred ool oom/ooc GRNST,tr dns PKST,pred reduced to f oom/ooc w/f-intrxln-ool fab POR,g mbri-bri yelgld FLOR,fst dif CUT to mg slo strmg mlky CUT,f-mg ltbn-mbn o STN,rr-tr blk dd o STN"

6850.00 6880.00 "LS,ltbn-tn-crm,occ bn,mott,mic-pred vf xln,mdns mtx ip,grn-microsuc mtx,pred oom/ooc GRNST w/scat dns sl ool to ool PKST,rr chlky mat,sl anhy w/rr ANHY xls,sl dolo,v rr buf CHT frgs;pred mf-f occ g oom/ooc fab POR w/tr f-intrxln fab POR,sl alg dev-vugPOR"

6880.00 6910.00 "LS AA,pred mf-g oom/ooc fab POR occ reduced,scat f-intrxln-ool fab POR,g-fdt to g-slo strmg mlky ring CUT,blmg CUT,pred mf-mg ltbn-mbn o STN w/sme blk dd o STN fld casts,g-bri yel FLOR"

6910.00 6940.00 "LS,ltbn-tn,mott,mic-vf xln,pred mdns mtx ip ool oom/ooc GRNST,rr dns sl ool to ool PKST,rr ANHY xls;pred mf-mg oom/ooc fab POR,f-interxln fab POR,mg-even bri yelgld FLOR,fst blmg to mf slo strmg CUT,pred mf-mg ltbn o STN,tr blk dd o STN res"

6940.00 6970.00 "LS,ltbn-crm-tn,mott,mic-vf xln,grn-microsuc-mdns mtx ip,pred ool oom/ooc GRNST w/rr dns ool PKST,sl dol to dol cmt ip,v sl anhy,tr pel;pred mf oom/ooc fab POR,FLOR AA,o STN AA,CUT AA"

6970.00 7000.00 "LS,ltbn-tn-crm,sl mott-mott,mic-vf xln,mdns mtx ip,grn-microsucr mtx,rr tt mtx,pred oom/ooc ool GRNST,tr dns PKST,v sl dol;pred m-mf oom/ooc fab POR,fst dif/blmg to mg-slo strmg mlky ring CUT,f-ltbn-bn o STN"

7000.00 7030.00 "LS,ltbn-mbn-tn-occ crm,mott,mic-pred vf xln,mdns mtx ip,grn mtx,pred oom/ooc ool GRNSt,rr dns sl ool occ plty PKST;pred mf-f oom/ooc fab POR,mg-g bri yelgld FLOR,mf-mg ltbn-mbn o STN w/sme dd blk o STN flg casts,fst blmg CUT"

DEPTH	LITHOLOGY
7030.00 7046.00	"LS AA,pred mf-mg oom/ooc w/tr tt intrxln fa POR,g-bri yelgld FLOR,fst blmg to g slo strmg mlky ring CUT,mf-mg ltbn-bn o STN,scat dd blk o STN flg casts"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-31 NW 1-A HORIZONTAL LATERAL LEG #1

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4777'
LOWER ISMAY		5466'	5465'	-688'
GOTHIC SHALE		5520'	5513'	-736'
DESERT CREEK		5541'	5528'	-751'
UPPER DC 1-A ZONE		5548'	5533'	-756'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S., Inc., Ratherford Unit #19-31 Northwest Horizontal Lateral Leg #1 was a re-entry of the Mobil Ratherford Unit #19-31 located in Section 19, T41S, R24E, and was sidetracked in a northwesterly direction from 5453' measured depth, 5452' true vertical depth, on October 12, 1998. The lateral reached a measured depth of 7046', true vertical depth of 5524.5' at total depth, with a horizontal displacement of 1600' and true vertical plane of 303.8 degrees on October 14, 1998. The lateral was terminated in the 1-A porosity zone in the Upper Desert Creek Member of the Paradox Formation. The curve and lateral were drilled using fresh water with polymer sweeps as the drilling fluid. The proposed target line was used as a reference point throughout the lateral. The curve and lateral sections were drilled with no significant mechanical problems. There was no measurable flow or loss of fluid throughout the curve and most of the lateral section. A very minor flow of fluid was noted near the end of the lateral section.

The objective of the Ratherford Unit #19-31 norhtwest lateral Leg #1 was to penetrate and drill 1600' horizontally in the Desert Creek 1-A porosity zone; to identify and define its lithology, and to evaluate the effective porosity of the zone. In this northwesterly direction, the 1-A porosity zone appeared to have a very consistent and well developed porosity, thus was the target for drilling in this lateral. These objectives were met in the 1-A porosity zone of the Desert Creek. The lithology of the best porosity penetrated in the 1-A zone in this northwesterly lateral was predominately an oolicastic to oomoldic, very slightly algal limestone grainstone facies, and had a fair to good hydrocarbon and gas show, with good visible effective porosity and permeability. Near the end of the curve section and the beginning of the lateral section, the lithology was predominately a very coarse limestone grainstone, with abundant microfossils, and anhydrite filling in the interclastic porosity fabric, this limestone had moderate intercrystalline porosity and a moderately fair sample show. As the lateral bumped the top of the 1-A zone toward the end of the lateral, a very minor increase in dense, very slightly oolitic, occasionally platy and chalky limestone packstone was noted. These packstones had no to very minor porosities and no to extremely poor sample and gas shows.

The curve was begun in the lower portion of the Upper Ismay on October 13, 1998 before encountering the typical sections of the Lower Ismay, Gothic Shale, Desert Creek and the 1-A porosity bench carbonate cycle of the Upper Paradox Formation.

The curve section was began at measured depth of 5453', 5452' true vertical depth, near the base of the Upper Ismay carbonate cycle of the Upper Paradox Formation. The lower Upper Ismay was penetrated from a measured depth of 5453', to a measured depth of 5466', true vertical depth 5465'. This lower 13' of the Upper Ismay member was a predominately a clean to dense, occasionally argillaceous, tight limestone, with scattered interbeds of earthy to argillaceous dolomites, very thin black carbonaceous shale partings and scattered chert fragments. The limestones were cream to white, some medium gray brown and brown to medium brown, cryptocrystalline to microcrystalline, clean and dense, with streaks of an earthy to argillaceous to chalky texture, and scattered Crinoid fossils. These limestones had no visible porosity or sample show. The thin interbedded dolomites were brown to medium brown to gray brown, cryptocrystalline to microcrystalline, earthy to argillaceous, limey, becoming marly with depth, and had scattered Crinoid fossils. The dolomites also had no visible porosity or sample shows. The shale parting were black to dark gray, some light gray, subblocky to

subplaty, occasionally fissile, very slightly silty, micaceous, and calcareous to slightly dolomitic, and had very minor Crinoid fossils. Scattered throughout the Upper Ismay carbonates were translucent to buff to dark brown chert fragments. The basal carbonates became increasingly marly and graded into the thin, very fossiliferous, carbonaceous Hovenweep Shale. The Hovenweep Shale, which defines the Upper and Lower Ismay contact, was represented by a slight increase in the black carbonaceous, dolomitic to calcareous, occasionally silty shale. This contact is moderately well represented in the samples from measured depths of 5463' and 5466', true vertical depths 5462' to 5465'.

The top of the Lower Ismay member of the Upper Paradox Formation was picked at a measured depth of 5466', true vertical depth 5465', based primarily on sample identification and a decrease in the rate of penetration. The upper 30' of the Lower Ismay was predominately a tan to cream to brown, some gray brown, dense, very slightly anhydritic, fossiliferous limestone; with thinly interbedded argillaceous, brown to medium brown, limey dolomite, and very thin black carbonaceous shale partings and rare brown to dark brown chert fragments. The Lower Ismay, from measured depths of 5496' to 5516', became a white to cream to light gray, cryptocrystalline to microcrystalline limestone, with granular streaks, a trace of chalky texture, slightly to very silty, occasionally anhydritic and occasionally dolomitic in part, with scattered Crinoid and microfossils. This limestone had streaks of well cemented very silty limestone grainstones, some scattered translucent to light to dark brown chert fragments, and very rare thin brown, earthy to slightly argillaceous dolomites. It was also noted that these limestones occasionally graded to very limey siltstones. Associated with the very thin dolomites were very rare streaks of intercrystalline porosity, and a very minor sample show. The basal 4 feet of the Lower Ismay, from a measured depth of 5516' to a measured depth of 5520', was a very dense, slightly dolomitic limestone packstone and earthy limey dolomites. These limestones and dolomites became slightly to very marly with depth, and had scattered anhydrite interclasts and very rare chert fragments. The basal limestones and thin dolomites showed no visible porosity or visible sample show. The basal limestones and dolomites of the Lower Ismay carbonates graded into limey to dolomitic carbonaceous shales of the Gothic Shale.

The Gothic Shale was penetrated at a measured depth of 5520', true vertical depth 5513', and gradationally underlies the Lower Ismay. The top of the Gothic was picked at an increase in the penetration rate below the dense limestone and dolomite marlstones and a significant increase in the amount of black carbonaceous shale in the cuttings. This shale member of the Upper Paradox Formation was seen to be ten feet thick in this northwesterly direction. This shale is black to dark gray shale, carbonaceous, occasionally grainy to silty, soft to slightly firm, sooty, slightly fissile, subblocky to subplaty, calcareous to slightly dolomitic and slightly micaceous. Very thin partings of dense, very slightly argillaceous, occasionally dolomitic, cream to tan limestones and clean to very argillaceous, limey, brown to medium gray brown dolomites were noted in this shale member. The Gothic overlays the top of the Desert Creek Member with a sharp contact.

The top of the Desert Creek Member of the Upper Paradox Formation was picked at a measured depth of 5541', 5528' true vertical depth, at a slight decrease in penetration rate and an increase in the amount of dense limestone packstone in the samples. The Upper Desert Creek transition zone between the Gothic Shale and the 1-A porosity zone had a true vertical thickness of approximately five feet. This transition zone was predominately a dense limestone packstone, which was occasionally very argillaceous and very slightly fossiliferous in part and had thinly interbedded argillaceous limey dolomites and very thin black carbonaceous shale partings. The limestones of the transition zone are light brown to cream to tan, some medium brown, cryptocrystalline to microcrystalline, dense to slightly silty, some chalky to anhydritic and very slightly dolomitic. Scattered in the limestones are very thin, brown, microcrystalline, argillaceous, limey dolomites, some very rare black, dolomitic, slightly micaceous, calcareous, very slightly carbonaceous shales, and rare translucent chert fragments. The transition zone had no visible porosity or sample show. Near the base of the transition zone the dense limestones became increasingly oolitic and graded in to the oolicastic to oomoldic limestones of the upper 1-A porosity bench.

The top of the Desert Creek Upper 1-A porosity zone was encountered at a measured depth of 5548', true vertical depth of 5533', with a horizontal displacement of approximately 108'. The top was picked on the lithology becoming predominately a good oolicastic to oomoldic limestone grainstone with a significant increase in the penetration rate, but only a minor increase in gas. This oolicastic to oomoldic limestone grainstones marked the upper 1-A porosity zone. The upper oolicastic to oomoldic porosity was approximately twelve feet thick in this northwesterly direction, from the measured depth of 5548' to a measured depth of 5573', with a true vertical depth of 5545'. These limestone grainstones are tan to light brown to cream, some white to brown, microcrystalline to very fine crystalline, with a trace of granular to slightly microsucrosic texture, very slightly dolomitic, with very rare light brown chert fragments. The limestones have moderately good oomoldic to oolicastic fabric to very poor algal material, with a moderately fair oolitic to fair intercrystalline and very poor algal porosity development. A very minor amount of anhydrite and calcite crystal growth was noted in the oolicasts and molds as well as in the intercrystalline matrix. The sample show was moderately fair with a trace of brown to light brown oil stain and had minor traces of black bitchimum stain* filling on the crystal faces and in the oolicasts and molds. The grainstones had a spotty trace of bright to occasionally dull yellow fluorescence and a moderately fair slow streaming to trace fast streaming cut. At approximately 5573', the oolicastic to oomoldic material began decreasing, and the limestone grainstone became increasingly coarse grained and showed increasing anhydrite interclasts and anhydrite filling in the algal and intergranular porosity. As the drilling of the curve section continued, the penetration rate decreased, as did the sample show, with the increase in the amount of anhydrite interclasts and dense limestone packstones. These very granular, slightly algal limestones with abundant anhydrite interclasts from the measured depth of 5573', with a true vertical depth 5545' to the measured depth of 5615', 5552' true vertical depth, showed decreasing amounts of porosity and sample show. These denser, very slightly oolitic, algal limestone grainstones are tan to brown, occasionally white to cream, cryptocrystalline to finely crystalline, slightly chalky to occasionally platy, very fossiliferous and very anhydritic. These limestones had minor streaks algal to moderately fair intercrystalline porosity, with abundant anhydrite interclasts with a moderate sample show, which decreased with depth.

The best porosity of the 1-A zone seen in the curve section was penetrated from the measured depth of 5548', true vertical depth 5533', to a measured depth of 5573', 5545' true vertical depth, in the upper half of the 1-A zone. The lithology of the best porosity of the 1-A zone was the very good oolicastic limestone grainstone as described above, with a much better porosity and sample show, than did the lower 8' of the curve. As soon as the 1-A zone was penetrated an increase in the background gases was noted. The best porosity in upper 12' of the 1-A was targeted zone for the entire northwest lateral, after evaluating the 1-A section seen in the curve portion of the lateral.

The curve portion of the lateral was completed at a measured depth of 5615', true vertical depth 5552', with a horizontal displacement of 176', bearing 310.5 degrees, and an inclination of 90.4 degrees, on October 13, 1998. Drilling of the curve section was halted in the lower, tight, very anhydritic, algal limestone grainstone of the 1-A zone. At this point a trip was made to lay down the curve assembly and pickup the lateral assembly.

Drilling of the northwest lateral was resumed also on the 13th of October 1998, in the Upper Desert Creek 1-A porosity zone of the Upper Paradox Formation. The lateral was slid for the first 60' in order to control horizontal plane direction and to turn the well path upward to reacquire the best porosity of the 1-A zone. The lateral was begun in the very slightly oolicastic to oomoldic, occasionally algal limestone grainstone facies. This limestone grainstone was a tan to light brown, some brown to cream, microcrystalline to very finely crystalline, granular to microsucrosic, slightly dolomitic, with abundant anhydrite interclasts and a trace of calcite cement and porosity filling. These tight anhydritic limestone grainstones had a trace of intercrystalline to poor algal and oolitic porosity. The sample show was predominately a poor to a trace of bright to dull yellow fluorescence, a trace of spotty light brown to brown oil stain, with scattered rare black bitchimum* stain, and a weak slow streaming to a trace of moderately fair slow diffuse cut. Scattered throughout these poor algal to very

slightly oolitic limestone grainstones, were scattered dense, very slightly oolitic and fossiliferous, occasionally chalky to platy, light gray, cryptocrystalline, limestone packstones.

As the well path was slowly turned upward the lithology became increasingly oolicastic to oomoldic, slightly algal limestone grainstone, with decreasing amounts of anhydrite interclasts and anhydrite filled porosities. Upon reaching a measured depth of 5694', 5550.5' true vertical depth, a significant increase in the rate of penetration was noted, as the amount of anhydrite interclasts and anhydrite filled porosity and cementing in the limestone grainstones decreased. At this point, the sample show and background gas began increasing. The well bore was continued slowly upward, rising above the proposed target, the lithology, remained the slightly oolicastic and oomoldic, occasionally algal, very granular limestones. Scattered in these limestones were traces of microfossils to Crinoid fossils and traces of styolites, filled with black carbonaceous mud. There were intervals where the limestones had abundant amounts of Crinoid fragments, and graded to almost a "fossil hash". Upon reaching a measured depth of 5941', a true vertical depth of 5442.3', and a horizontal displacement of 500', the lithology became a very oolicastic to oomoldic, slightly algal limestone grainstone. This limestone grainstone was the very limestone porosity noted at the top of the 1-A zone in the curve section. At this point the lateral was six feet above the proposed target line.

As the well path was continued very slowly upward at a shallow upward angle, the lithology of the 1-A zone from the measured depth of 5941' to the end of the northwest lateral remained in the very good, oolicastic to oomoldic, slightly algal limestone grainstone porosity. This limestone was tan to light brown, rare brown to cream, microcrystalline to very fine crystalline, granular to microsucrosic, occasionally traces of sucrosic texture, slightly dolomitic cement, rare calcite and anhydrite cement and porosity filling. These grainstones had a fair to good oolitic to intercrystalline porosity, with a minor amount of algal porosity. The sample show through the remainder of lateral was also very consistent. These limestone grainstone had a moderately good to good bright yellow fluorescence, a moderately fair to fair light brown to brown oil stain, with rare to occasionally trace amounts of black bitchimum* stain, and a moderately fair to good fast to moderately fast streaming cut. Scattered throughout the length of the lateral from a horizontal displacement of 500' to 1600', were traces of dense, very slightly oolicastic limestone packstone, with minor microfossils. These dense limestone packstones increased slightly when the top of the 1-A zone was bumped and very shallowly penetrated. The top was encountered at measured depths of 6594'and 6778', with true vertical depths of 5526' and 5524.5, with horizontal displacements of 1150' and 1333'. The 1-A zone had an average dip of 90.3° until reaching a horizontal displacement of 1050' when the zone dipped downward at approximately 89.3° to a horizontal displacement of 1150'. From the horizontal displacement of 1150' to the laterals termination at 1600' the zone dipped upward at approximately 90.8°. The lateral reached it's termination point on October 14, 1998', within the best porosity of the 1-A zone, at a measured depth of 7046', 5424.5' true vertical depth, and a horizontal displacement of 1600'. The lateral was terminated approximately 14' above the proposed target line. From the beginning of the lateral section to its termination a flare from 6' in height increasing up to approximately 16' was seen. The lateral began making oil and gas as soon as the good porosity in the 1-A zone at a true vertical depth of 5450' was encountered.

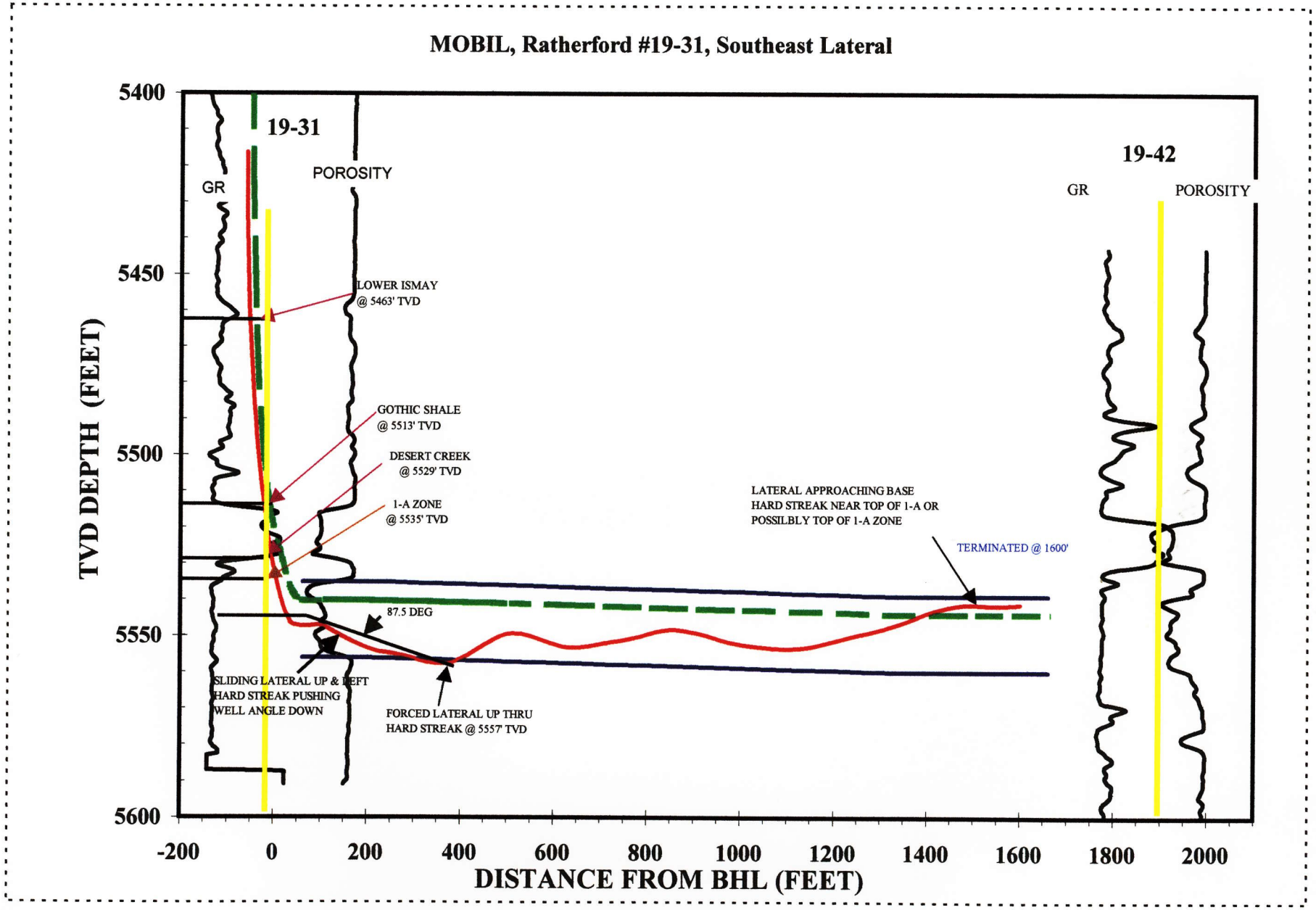
In tracking the lateral in this northwesterly direction, the oolicastic to oomoldic limestone grainstone porosity had good sample shows, which remained consistent throughout the lateral's length, in approximately the upper 10' to 11' of the 1-A zone. From the true vertical depth of 5542' to a true vertical depth of 5552', the limestone became increasingly granular, with the porosity becoming increasingly anhydrite filled and the amount of anhydrite interclasts increased as the depth increased. The increase in anhydrite interclasts and cementing indicated the possibilty of a basal algal mound type of environment, in which there was a lot of water movement through the algal porosities, prior to the mound being reburied. From the beginning of the lateral to it's termination the top of the 1-A zone was possibly encountered twice near the end of the lateral. The oolicastic to oomoldic, very slightly algal limestone grainstones of the 1-A porosity bench, showed good oolitic to intergranular porosity, rare to a trace of algal porosity, with a good sample show, as well as the lateral making significant

amounts of oil and gas throughout. The scattered dense limestone packstones were of no significance in this lateral. The well path began varying from the proposed well path beginning at a horizontal displacement of approximately 290', and continued to move away from the proposed target to a maximum displacement of thirteen feet.

From the beginning of the 19-31 northwest lateral leg #1 to its termination on October 14, 1998, at a measured depth of 7046', 5524.5' true vertical depth and a horizontal displacement of 1600', the porosities in the upper 10' to 11' of the 1-A zone appeared to remain consistent. The oolitic to intercrystalline to very slightly algal porosities are well enough developed to enhance the production performance of the R. U. 19-22 well. The limestone grainstone lithology with increasing amounts of anhydrite filled porosity from true vertical depth of 5542' to 5552' in the curve and lateral sections may possibly add in a minor amount to the performance of the lateral after acidization.

*The black residual staining has been called by Dr. Dave Eby & others as "bitchimum" and is also known as "dead oil" ("dd o stn" on mud logs). This staining is associated with the movement of oil over long periods of time and is a good indicator of producable hydrocarbons when associated with productive porosities, but can also be found in porosities that have been filled by anhydrites and other material at later dates.

ROCKY MOUNTAIN GEO-ENGINEERING CORP. 2450 INDUSTRIAL BLVD. GRAND JUNCTION, CO 81505 (970) 243-3044



Form 3160-4
(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0137
Expires: February 28, 1995

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO TRIBAL

7. UNIT AGREEMENT NAME: RATHERFORD UNIT

8. FARM OR LEASE NAME, WELL NO.: RATHERFORD 19-31

9. API WELL NO.: 43-037-31047

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC. 19, T41S, R24E

12. COUNTY OR PARISH: SAN JUAN

13. STATE: UT

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other X SIDETRACK

2. NAME OF OPERATOR: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. ADDRESS AND TELEPHONE NO.: P.O. Box 633, Midland TX 79702 (915) 688-2585

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: NW/NE 510' FNL & 1980' FEL
At top prod. interval reported below: LAT 1;1008' FNL & 1244' FWL/SURF SPOT
At total depth: LAT2;1161' FSL & 1104' FEL/SURF SPOT

14. PERMIT NO. / DATE ISSUED:

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
10-07-98	10-20-98	11-10-98	4763' GR	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
*#24	*#24		→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)*
LAT #1 (5444-7046' TMD)(5443-5525' TVD) LAT #2 (5417-7109')(5416-5541' TVD)

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ELECTRIC AND OTHER LOGS RUN: NO

27. WAS WELL CORED: NO

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8"	54.5#	121'	17 1/2"	150 SXS SURFACE	
9 5/8"	36#	1615'	12 1/4"	600 SXS SURFACE	
7"	23 & 26#	5604'	8 3/4"	700 SXS 75' CALC	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8"	5257'	5257' TAC

31. PERFORATION RECORD (*Interval, size and number*)

RECEIVED
DEC 28 1998
DIV. OF OIL, GAS & MINING

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping - size and type of pump*)	WELL STATUS (*Producing or shut-in*)
11-28-98	SUB PUMP	PRODUCING

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS - OIL RATIO
11-28-98	24			99	43	281	434

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL - BBL.	GAS - MCF.	WATER - BBL.	OIL GRAVITY - API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS
DIRECTIONAL SURVEY

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Shirley Houchins for TITLE SHIRLEY HOUCHINS/ENV & REG TECH DATE 12-23-98

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdicton.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH

U.S. GOVERNMENT PRINTING OFFICE: 1992-774-672

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 19-31
9. API Well No.: 43-037-31047
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 19, T41S, R24E
NW/NE 510' FNL & 1980' FEL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other SIDETRACK	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:

LATERAL #1; 1008' NORTH & 1244' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2; 1161' SOUTH & 1104' EAST FROM SURFACE SPOT (ZONE 1a).

SEE ATTACHED PROCEDURE.

14. I hereby certify that the foregoing is true and correct
Signed Sue Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 12-23-98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*** See Instruction on Reverse Side**

DRILLED FOOTAGE CALCULATION FOR DIRECTIONAL AND HORIZONTAL WELLS

Unit, Well Name:	Ratherford Unit, Well 19-31
API Well #:	43-037-31047
Well Completion:	Horizontal, Producer, 2 Laterals

First leg description:	Lateral #1
KOP MD:	5362.00
EOL MD:	6902.00
Footage drilled:	1540.00
Max. TVD Recorded	5485.05

Second leg description:	Lateral #2
KOP MD:	5340.00
EOL MD:	7256.00
Footage drilled:	1916.00
Max. TVD Recorded	5514.59

Total Footage Drilled (MD):	***3456.00***
Deepest point (TVD):	***5514.59***

ATTACHMENT – FORM 3160-5
RATHERFORD UNIT – WELL #19-31
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH

10-7-98	MIRU NAVAJO WEST RIG 36.
10-8-98	SITP 100# CSG 200# BLED OFF GAS, PUMP KILL FLUID, NIP DN WELL HEAD/INSTALL BOP/HYDRIL, POH TALL OUT W/TBG TAC TBG SN PS 18" REC. LEFT IN HOLE REST PS & MA ERODED OFF RIH W/GUIB. RBP SET @ 5398' CIRC WELL W/ F-WTR, TEST 1000# OK POH LD.
10-9-98	CIRC WELL BORE. NIP DN HYDRIL/BOP. REMOVE WELLHEAD STUB ON TO 7" CSG CHANGED OUT WELL HEADS. TEST TO 1000# OK INSTALLED TOP FLANGE, SECURED WELL. RIG DN UNIT & EQUIP SENT TO YARD FOR REPAIRS.
10-10-98	MOVED IN MONTEZUMA RIG 25. NOTIFIED JIM THOMPSON W/ STATE UTAH ABOUT STARTING DRILLING OPERATIONS @ 9:00 AM 10/10/98.
10-11-98	FINISHED RIGGING UP & NU BOP, RAN MMS PRESS TEST, 2000# HIGH, 250# LOW RIH W/ AOHDP TO 5398'. REL RBP, POH W/ RBP. SET TIW WHIPSTOCK PKR @ 5461', RIH W/ TIW ANCHOR LATCH ASSEMBLY, LATCH INTO PKR @ 5461'. GYRO DATA RAN GYRO, PKR KEYWAY @ 163' GTF, PULL GYRO SURVEY TO SURFACE.
10-12-98	MIXED & PUMPED LCM PILLS & PLUGGED OFF PERFS, CIRC HOLE CLEAN. POH W/ UBHO & LATCH ASSEMBLY. FINAL REPORT FOR REENTRY.
10-12-98	RIH W/ TIW ANCHOR LATCH, D. WEATHERFORD WHIPSTOCK, LATCHED INTO PKR @ 5461' W/ GTF @ 163 & TOP OF WHIPSTOCK @ 5444' W/ FACE @ 310 DEG. MILLED WINDOW W/ STARTER MILL FROM 5444'-5446', POH W/ MILL. RIH W/ WINDOW & WATERMELON MILLS. CUT WINDOW FROM 5444'-5452' & FORMATION TO 5453'. LD AOHDP POH W/ MILLS. FINAL REPORT FOR LATERAL 1.
10-13-98	FIN POH W/ MILLS. RIH W/ MUD MOTOR, PH6 TBG, & AOHDP. RIH W/ GYRO DATA. DRILLED CURVE FROM 5452'-5615' MD, 5552' TVD, 90 ANGLE, 316 AZ, 171' VS. PUMPED SWEEP & CIRC HOLE CLEAN. POH LD AOHDP CURVE ASSEMBLY.
10-14-98	RIH DEG MUD MOTOR, PH6 TBG, & AOHDP. SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 5615'-6635'.
10-15-98	RIH W/ SUPERHOOK, CAUGHT WHIPSTOCK @ 5446'. POH W/ WHIPSTOCK. RIH W/ LATCH ASSEMBLY, WHIPSTOCK & STARTER MILL, LATCHED INTO TIW PKR W/ TOP OF WHIPSTOCK @ 5417' FACE @ 134 DEG. CUT WINDOW FROM 5417'-5419' W/ STARTER MILL, CIRC OUT.
10-15-98	SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 6635'-7046' TD, 5524' TVD, 91.8 ANGLE, 303 AZ, 1600' VS. FINAL REPORT LATERAL 1A1.
10-16-98	RIH MUD MOTOR & AOHDP. RU GYRO DATA, DRILLED CURVE W/ GYRO FROM 5424'-5459'. POH W/ GYRO.
10-16-98	LATERAL #2A1--DISPLACED HOLE KILLED WELL. POH W/ STARTER MILL. RIH W/ WIDOW & WATERMELLON MILLS. CUT WINDOW FROM 5417'-5425' & FORMATION TO 5426'. POH W/ MILLS.
10-17-98	LATERAL 2A DRILLED CURVE FROM 5459'-5632' MD, 5547' TVD. PUMPED SWEEP & CIRC HOLE CLEAN. POH W/ CURVE ASSEMBLY. RIH W/ PH6 TBG & AOHDP TO 5632'. SLIDE & ROTATE DRILLED LATERAL 2A1 FROM 5632-5900'.
10-18-98	SLIDE & ROTATE DRILLED LATERAL 2A1 FROM 5900-7145'.

ATTACHMENT – FORM 3160-5
RATHERFORD UNIT – WELL #19-31
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH
PAGE 2

10-19-98	DRILLED LATERAL 2A1 FROM 7145'-7190' TD, 5541' TVD. PUMPED SWEEP & CIRC HOLE. POH & LD MWD & MUD MOTOR. RIH W/ PH6 TBG ON/OFF TOOL & AOHDP. SET TOP OF PKR @ 5310' W/ EOT @ 5650', PRESS TESTED TO 1000# HELD OK. CIRC HOLE CLEAN. LD AOHDP, PH6 TBG & DC'S. ND BOP CAPPED WELL W/ FLANGE & VALVE, CLEAN PIT. RIG DOWN MWS RIG 25.
10-20-98	RD & REL MWS RIG 25. FINAL REPORT FOR LATERAL 2A

COMPLETION:

11-04-98	RU MONTEZUMA 36. SPOT TANKS AND PUMP. ND WELLHEAD. NU BOPS AND FUNCTION TEST. PU AND RIH W/ ON/OFF TOOL, 5326'. CLEAN OFF TOP OF PKR/PLUG PRIOR TO PULLING. SI & SDFN.
11-05-98	RU TEFTELLER SL. RIH AND RUPTURE DISK, POOH W/ SL, GIH AND PULL PLUG. POOH & RD SL W/O FLUID TO KILL TBG. PUMP 30 BBLS 11.6 CACL2 W/ SAFEBREAK. 3 HR SITP = 500 PSI W/O 13.4 PPG MUD TO KILL TBG. PUMP 50 BBLS MUD-TBG DEAD. ATTEMPT TO UNSET PKR. SISDFN.
11-06-98	TBG 0 PSI, 300 PSI ON CSG. RELEASE PKR. TBG & CSG DEAD: 0 PSI. LD PKR, ON/OFF TOOL, PU SUPERHOOK TBG AND RIH. LATCH WHPSTK. POOH W/ SUPERHOOK—NO WHPSTK. RIH W/ SUPERHOOK. WILL MAKE 2ND ATTEMPT TO LATCH WHPSTK IN AM.
11-07-98	SITP/SICP: 0 PSI, RIH W/ WS. LATCH WHPSTK, POOH. C/O HYDRIL. SI & SDFN.
11-08-98	POOH & LD WS. RIH W/ BULL PLUG, MUD JOINT, PERF SUB, SEATING NIPPLE, 3 JTS IPC, TBG ANCHOR, 169 JTS 2 7/8 6.5# J55 8RD EUE, 1 JT IPC. SI & SDFN.
11-09-98	SITP/SICP = 0 PSI. ND BOPS, SET TAC, NU WELLHEAD, DISPLACE MUD W/ 300 BBLS FW, FLOW BACKSIDE TO CLEAN UP, KILL TBG, RIH W/ PUMPS & RODS, SPACE OUT, PU POLISH ROD.
11-10-98	RESEAT PUMP, TEST TO 400 PSI-OK. RD LINES/PUMP/EQP, RDMO DDPU. CLEAN LOCATION. FINAL REPORT. PIT TO BE COVERED 11/11/98.

Mobil

San Juan County
Utah
Ratherford Unit
RU 19-31 - MWD Leg #1

SURVEY REPORT

16 December, 1998

sperry-sun
DRILLING SERVICES
A DIVISION OF DRESSER INDUSTRIES, INC.

Survey Ref: svy3375

Sperry-Sun Drilling Services

Survey Report for RU 19-31

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
Gyro							
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
100.00	0.660	322.020	100.00	0.45 N	0.35 W	0.56	0.660
300.00	0.580	319.830	299.99	2.14 N	1.72 W	2.69	0.042
500.00	0.710	300.940	499.97	3.55 N	3.43 W	4.91	0.124
700.00	0.780	304.620	699.96	4.96 N	5.62 W	7.49	0.042
900.00	1.260	305.380	899.92	7.00 N	8.53 W	11.03	0.240
1100.00	1.420	301.320	1099.87	9.56 N	12.44 W	15.68	0.093
1300.00	1.500	302.440	1299.80	12.26 N	16.76 W	20.72	0.042
1500.00	1.570	294.150	1499.73	14.78 N	21.47 W	25.95	0.116
1700.00	1.570	293.150	1699.66	16.98 N	26.49 W	31.21	0.014
1900.00	1.270	286.370	1899.60	18.68 N	31.14 W	35.86	0.172
2100.00	0.950	293.970	2099.56	19.98 N	34.78 W	39.49	0.176
2300.00	0.860	271.610	2299.53	20.70 N	37.80 W	42.26	0.181
2500.00	0.750	230.980	2499.52	19.91 N	40.31 W	43.68	0.284
2700.00	0.130	229.210	2699.51	18.94 N	41.50 W	43.97	0.310
2900.00	0.280	15.650	2899.51	19.26 N	41.54 W	44.21	0.197
3100.00	0.550	271.910	3099.51	19.77 N	42.37 W	45.16	0.337
3300.00	1.220	256.780	3299.48	19.31 N	45.40 W	47.19	0.352
3500.00	1.320	248.520	3499.43	17.98 N	49.62 W	49.57	0.104
3700.00	1.380	249.540	3699.38	16.30 N	54.02 W	51.85	0.032
3900.00	1.180	252.360	3899.33	14.83 N	58.24 W	54.14	0.105
4100.00	1.090	251.390	4099.29	13.60 N	62.00 W	56.24	0.046
4300.00	1.030	249.480	4299.25	12.36 N	65.49 W	58.11	0.035
4500.00	0.900	225.900	4499.23	10.64 N	68.30 W	59.16	0.207
4700.00	0.600	226.250	4699.21	8.82 N	70.18 W	59.43	0.150
4900.00	0.440	240.740	4899.20	7.72 N	71.61 W	59.82	0.103
5100.00	0.680	253.520	5099.19	7.01 N	73.42 W	60.75	0.135
5300.00	0.840	265.140	5299.17	6.55 N	76.02 W	62.44	-0.111
MWD Leg #1							
5444.00	0.930	269.400	5443.16	6.45 N	78.24 W	64.08	0.077
5453.00	4.600	310.000	5452.14	6.68 N	78.59 W	64.49	43.784
5463.00	9.100	310.300	5462.07	7.45 N	79.50 W	65.69	45.001
5473.00	14.600	310.400	5471.85	8.78 N	81.06 W	67.74	55.000
5483.00	20.300	310.500	5481.39	10.72 N	83.34 W	70.74	57.001
5493.00	25.600	310.500	5490.59	13.25 N	86.31 W	74.63	53.000
5503.00	30.700	310.900	5499.41	16.33 N	89.88 W	79.35	51.035
5513.00	36.200	312.500	5507.75	20.00 N	93.99 W	84.86	55.698
5523.00	40.800	313.800	5515.57	24.26 N	98.53 W	91.07	46.704
5533.00	45.000	314.100	5522.90	28.98 N	103.43 W	97.86	42.050

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-31

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5543.00	50.300	315.000	5529.63	34.17 N	108.69 W	105.22	53.415
5553.00	56.300	315.000	5535.60	39.83 N	114.36 W	113.21	60.000
5563.00	62.300	315.400	5540.71	45.93 N	120.41 W	121.77	60.098
5573.00	68.200	315.800	5544.89	52.42 N	126.76 W	130.80	59.112
5583.00	73.800	316.000	5548.15	59.21 N	133.34 W	140.20	56.032
5615.00	90.400	310.500	5552.53	80.82 N	156.36 W	171.73	54.577
5642.00	90.900	308.800	5552.23	98.04 N	177.15 W	198.72	6.563
5673.00	92.500	311.700	5551.31	118.06 N	200.79 W	229.70	10.680
5705.00	91.700	311.800	5550.13	139.36 N	224.65 W	261.67	2.519
5737.00	92.200	312.400	5549.05	160.80 N	248.38 W	293.63	2.440
5769.00	93.300	313.400	5547.51	182.55 N	271.79 W	325.55	4.643
5800.00	94.300	313.800	5545.46	203.88 N	294.19 W	356.42	3.473
5831.00	92.800	313.100	5543.54	225.16 N	316.65 W	387.30	5.338
5863.00	90.400	313.600	5542.64	247.12 N	339.91 W	419.23	7.661
5895.00	90.500	311.000	5542.39	268.65 N	363.58 W	451.20	8.131
5926.00	89.300	310.100	5542.45	288.81 N	387.13 W	482.20	4.839
5958.00	91.400	311.700	5542.25	309.75 N	411.32 W	514.19	8.250
5989.00	92.200	311.500	5541.28	330.33 N	434.49 W	545.17	2.660
6021.00	92.100	311.700	5540.08	351.56 N	458.40 W	577.13	0.698
6053.00	91.800	312.000	5538.99	372.89 N	482.22 W	609.10	1.325
6085.00	92.500	312.500	5537.79	394.39 N	505.89 W	641.05	2.688
6117.00	92.100	312.900	5536.50	416.08 N	529.39 W	672.99	1.767
6149.00	91.700	312.900	5535.44	437.85 N	552.82 W	704.93	1.250
6180.00	91.900	313.100	5534.47	458.98 N	575.48 W	735.87	0.912
6212.00	91.600	312.700	5533.49	480.75 N	598.91 W	767.81	1.562
6243.00	92.500	312.500	5532.38	501.72 N	621.72 W	798.76	2.974
6275.00	92.600	312.400	5530.96	523.30 N	645.30 W	830.70	0.442
6308.00	91.100	312.500	5529.89	545.56 N	669.64 W	863.65	4.556
6340.00	91.800	312.000	5529.08	567.07 N	693.32 W	895.62	2.688
6371.00	91.100	311.800	5528.30	587.77 N	716.39 W	926.59	2.348
6403.00	89.900	311.100	5528.02	608.95 N	740.37 W	958.58	4.341
6435.00	91.100	310.400	5527.74	629.83 N	764.61 W	990.57	4.341
6467.00	91.700	310.300	5526.96	650.55 N	788.99 W	1022.56	1.901
6499.00	91.900	310.400	5525.95	671.25 N	813.36 W	1054.55	0.699
6530.00	90.400	310.800	5525.33	691.42 N	836.90 W	1085.54	5.008
6562.00	88.900	309.900	5525.53	712.14 N	861.28 W	1117.54	5.466
6594.00	88.800	310.100	5526.17	732.71 N	885.79 W	1149.53	0.699
6626.00	89.600	310.100	5526.61	753.32 N	910.27 W	1181.53	2.500
6657.00	90.200	310.300	5526.67	773.33 N	933.94 W	1212.53	2.040
6689.00	90.000	309.400	5526.61	793.83 N	958.51 W	1244.53	2.881

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-31

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6720.00	91.800	310.100	5526.13	813.65 N	982.34 W	1275.52	6.230
6752.00	93.000	310.600	5524.79	834.35 N	1006.71 W	1307.49	4.062
6783.00	90.600	309.200	5523.81	854.22 N	1030.47 W	1338.47	8.962
6815.00	87.900	307.800	5524.23	874.14 N	1055.51 W	1370.45	9.504
6847.00	88.200	306.700	5525.32	893.50 N	1080.97 W	1402.40	3.561
6879.00	88.000	305.900	5526.38	912.43 N	1106.74 W	1434.31	2.576
6910.00	89.500	305.700	5527.06	930.56 N	1131.88 W	1465.22	4.882
6942.00	90.400	305.300	5527.09	949.14 N	1157.93 W	1497.12	3.078
6974.00	91.200	304.800	5526.64	967.52 N	1184.13 W	1529.00	2.948
7006.00	91.800	304.100	5525.80	985.61 N	1210.50 W	1560.84	2.881
7015.00	91.800	303.800	5525.52	990.64 N	1217.97 W	1569.79	3.332
7046.00	91.800	303.800	5524.54	1007.87 N	1243.71 W	1600.59	0.000

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North.
Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100ft.
Vertical Section is from Well and calculated along an Azimuth of 310.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 7046.00ft.,
The Bottom Hole Displacement is 1600.82ft., in the Direction of 309.020° (True).

Mobil

San Juan County
Utah
Ratherford Unit
RU 19-31 - MWD Leg #2

SURVEY REPORT

16 December, 1998

sperry-sun
DRILLING SERVICES
A DIVISION OF DRESSER INDUSTRIES, INC.

Survey Ref: svy3377

Sperry-Sun Drilling Services

Survey Report for RU 19-31

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
Gyro							
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
100.00	0.660	322.020	100.00	0.45 N	0.35 W	-0.57	0.660
300.00	0.580	319.830	299.99	2.14 N	1.72 W	-2.72	0.042
500.00	0.710	300.940	499.97	3.55 N	3.43 W	-4.93	0.124
700.00	0.780	304.620	699.96	4.96 N	5.62 W	-7.48	0.042
900.00	1.260	305.380	899.92	7.00 N	8.53 W	-11.00	0.240
1100.00	1.420	301.320	1099.87	9.56 N	12.44 W	-15.59	0.093
1300.00	1.500	302.440	1299.80	12.26 N	16.76 W	-20.57	0.042
1500.00	1.570	294.150	1499.73	14.78 N	21.47 W	-25.72	0.116
1700.00	1.570	293.150	1699.66	16.98 N	26.49 W	-30.85	0.014
1900.00	1.270	286.370	1899.60	18.68 N	31.14 W	-35.38	0.172
2100.00	0.950	293.970	2099.56	19.98 N	34.78 W	-38.90	0.176
2300.00	0.860	271.610	2299.53	20.70 N	37.80 W	-41.56	0.181
2500.00	0.750	230.980	2499.52	19.91 N	40.31 W	-42.83	0.284
2700.00	0.130	229.210	2699.51	18.94 N	41.50 W	-43.01	0.310
2900.00	0.280	15.650	2899.51	19.26 N	41.54 W	-43.26	0.197
3100.00	0.550	271.910	3099.51	19.77 N	42.37 W	-44.21	0.337
3300.00	1.220	256.780	3299.48	19.31 N	45.40 W	-46.07	0.352
3500.00	1.320	248.520	3499.43	17.98 N	49.62 W	-48.18	0.104
3700.00	1.380	249.540	3699.38	16.30 N	54.02 W	-50.18	0.032
3900.00	1.180	252.360	3899.33	14.83 N	58.24 W	-52.19	0.105
4100.00	1.090	251.390	4099.29	13.60 N	62.00 W	-54.05	0.046
4300.00	1.030	249.480	4299.25	12.36 N	65.49 W	-55.70	0.035
4500.00	0.900	225.900	4499.23	10.64 N	68.30 W	-56.52	0.207
4700.00	0.600	226.250	4699.21	8.82 N	70.18 W	-56.61	0.150
4900.00	0.440	240.740	4899.20	7.72 N	71.61 W	-56.88	0.103
5100.00	0.680	253.520	5099.19	7.01 N	73.42 W	-57.68	0.135
5300.00	0.840	265.140	5299.17	6.55 N	76.02 W	-59.23	0.111
MWD Leg #2							
5417.00	0.910	268.670	5416.16	6.45 N	77.80 W	-60.45	0.075
5426.00	3.200	134.000	5425.15	6.28 N	77.69 W	-60.25	43.265
5436.00	7.100	150.800	5435.11	5.54 N	77.19 W	-59.38	41.407
5446.00	11.900	155.100	5444.97	4.07 N	76.45 W	-57.82	48.489
5456.00	16.700	157.100	5454.66	1.81 N	75.46 W	-55.54	48.247
5466.00	21.400	158.300	5464.11	1.21 S	74.22 W	-52.55	47.161
5476.00	26.100	159.800	5473.26	4.97 S	72.79 W	-48.91	47.383
5486.00	30.500	161.700	5482.06	9.45 S	71.23 W	-44.68	44.907
5496.00	34.800	162.300	5490.48	14.58 S	69.57 W	-39.92	43.121
5506.00	39.400	162.800	5498.45	20.33 S	67.76 W	-34.62	46.098

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-31

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5516.00	44.200	162.700	5505.91	26.70 S	65.78 W	-28.78	48.005
5526.00	48.400	162.700	5512.81	33.60 S	63.63 W	-22.44	42.000
5536.00	51.600	162.700	5519.24	40.91 S	61.36 W	-15.72	32.000
5546.00	55.200	162.900	5525.20	48.58 S	58.98 W	-8.68	36.036
5556.00	59.400	162.500	5530.60	56.61 S	56.48 W	-1.30	42.135
5566.00	64.100	162.100	5535.34	65.00 S	53.80 W	6.45	47.132
5576.00	68.700	161.900	5539.34	73.71 S	50.97 W	14.54	46.036
5586.00	73.400	162.300	5542.59	82.71 S	48.07 W	22.88	47.152
5596.00	78.400	163.400	5545.02	91.98 S	45.21 W	31.37	51.125
5606.00	83.900	164.600	5546.56	101.47 S	42.49 W	39.92	56.263
5632.00	92.900	162.800	5547.28	126.39 S	35.20 W	62.48	35.299
5672.00	88.100	158.200	5546.93	164.07 S	21.85 W	98.25	16.618
5703.00	85.700	155.000	5548.61	192.47 S	9.56 W	126.82	12.891
5735.00	86.700	152.400	5550.73	221.10 S	4.58 E	156.88	8.688
5767.00	86.800	148.700	5552.55	248.91 S	20.29 E	187.50	11.548
5799.00	88.200	146.100	5553.94	275.84 S	37.51 E	218.60	9.221
5831.00	89.500	143.100	5554.59	301.92 S	56.04 E	250.04	10.215
5862.00	87.600	141.500	5555.37	326.43 S	74.99 E	280.70	8.012
5893.00	88.200	139.000	5556.51	350.25 S	94.80 E	311.50	8.288
5925.00	88.700	135.700	5557.37	373.77 S	116.47 E	343.43	10.426
5957.00	91.700	134.500	5557.26	396.44 S	139.05 E	375.42	10.097
5988.00	94.000	134.300	5555.72	418.10 S	161.17 E	406.37	7.447
6020.00	94.800	134.300	5553.26	440.38 S	184.01 E	438.28	2.500
6051.00	93.800	133.400	5550.94	461.80 S	206.30 E	469.19	4.334
6083.00	92.000	132.700	5549.32	483.61 S	229.65 E	501.14	6.034
6114.00	88.300	132.500	5549.24	504.59 S	252.47 E	532.13	11.953
6146.00	87.400	130.800	5550.44	525.84 S	276.36 E	564.08	6.008
6178.00	87.500	128.700	5551.86	546.28 S	300.94 E	595.96	6.563
6210.00	88.900	128.500	5552.87	566.24 S	325.93 E	627.80	4.419
6241.00	90.900	127.400	5552.92	585.30 S	350.38 E	658.62	7.363
6273.00	91.600	127.300	5552.23	604.71 S	375.81 E	690.40	2.210
6305.00	91.100	126.900	5551.47	624.01 S	401.32 E	722.16	2.001
6337.00	91.100	126.200	5550.86	643.06 S	427.03 E	753.88	2.187
6369.00	92.400	126.200	5549.88	661.95 S	452.84 E	785.57	4.062
6401.00	91.800	126.200	5548.71	680.84 S	478.64 E	817.25	1.875
6432.00	90.300	126.200	5548.14	699.14 S	503.65 E	847.96	4.839
6464.00	89.000	125.500	5548.33	717.88 S	529.59 E	879.64	4.614
6496.00	88.100	124.800	5549.14	736.30 S	555.74 E	911.25	3.563
6528.00	87.800	124.500	5550.29	754.48 S	582.05 E	942.80	1.325
6560.00	88.100	123.800	5551.43	772.43 S	608.52 E	974.31	2.379

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-31

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6591.00	89.000	123.600	5552.22	789.63 S	634.30 E	1004.80	2.974
6623.00	89.000	125.000	5552.78	807.66 S	660.73 E	1036.34	4.374
6654.00	89.300	126.700	5553.24	825.81 S	685.85 E	1067.02	5.568
6686.00	89.900	127.800	5553.46	845.18 S	711.32 E	1098.79	3.916
6717.00	91.000	127.800	5553.22	864.18 S	735.82 E	1129.61	3.548
6749.00	91.600	128.000	5552.49	883.83 S	761.06 E	1161.42	1.976
6781.00	91.800	129.400	5551.54	903.83 S	786.02 E	1193.27	4.418
6812.00	92.000	129.400	5550.51	923.49 S	809.97 E	1224.15	0.645
6844.00	91.700	129.000	5549.48	943.71 S	834.75 E	1256.02	1.562
6876.00	91.600	128.700	5548.56	963.77 S	859.66 E	1287.88	0.988
6908.00	92.500	129.400	5547.41	983.92 S	884.50 E	1319.74	3.562
6940.00	92.600	129.600	5545.99	1004.25 S	909.16 E	1351.61	0.698
6972.00	93.200	129.700	5544.37	1024.65 S	933.77 E	1383.48	1.901
7003.00	92.100	130.800	5542.94	1044.65 S	957.41 E	1414.38	5.015
7035.00	91.800	129.600	5541.85	1065.30 S	981.83 E	1446.29	3.863
7067.00	90.500	129.200	5541.21	1085.60 S	1006.55 E	1478.18	4.250
7099.00	89.400	129.000	5541.24	1105.79 S	1031.39 E	1510.06	3.494
7131.00	89.600	127.800	5541.51	1125.66 S	1056.46 E	1541.91	3.802
7157.00	90.500	126.700	5541.49	1141.40 S	1077.16 E	1567.73	5.466
7190.00	90.500	126.700	5541.20	1161.12 S	1103.62 E	1600.46	0.000

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North.
Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100ft.
Vertical Section is from Well and calculated along an Azimuth of 134.000° (True).

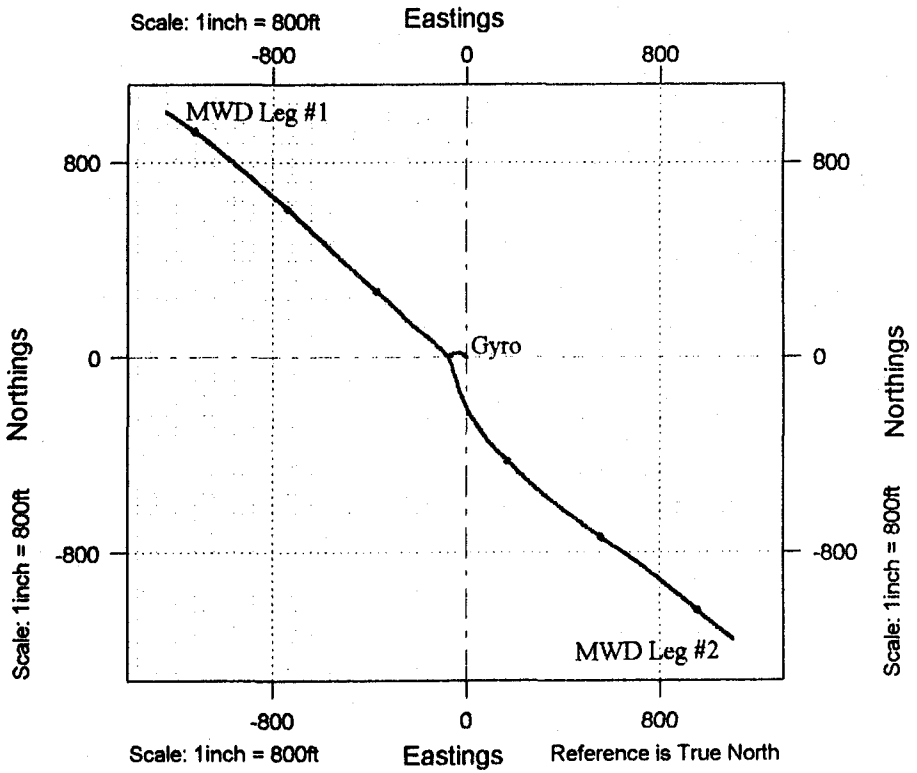
Based upon Minimum Curvature type calculations, at a Measured Depth of 7190.00ft.,
The Bottom Hole Displacement is 1601.93ft., in the Direction of 136.454° (True).

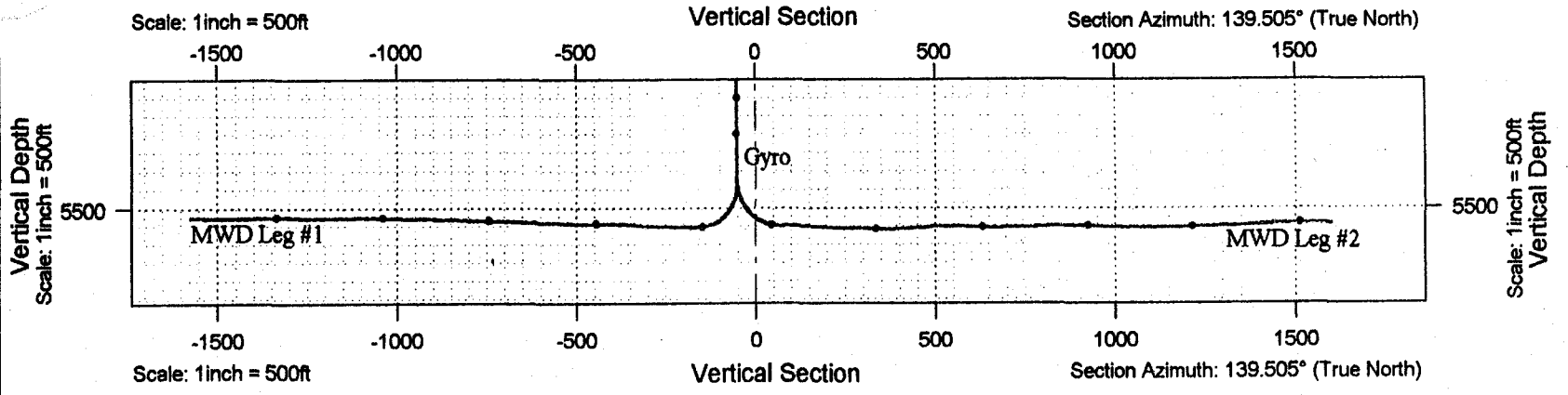
sperry-sun DRILLING SERVICES

Mobil

DrillQuest

San Juan County
Utah
Ratherford Unit
RU 19-31





Prepared:	Checked:	Approved:

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR MOBIL PRODUCING TX & NM INC

ADDRESS P. O. BOX 633

MIDLAND, TEXAS 79702

OPERATOR ACCT. NO. N

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
			43-037-31047	RATHERFORD 19-31	NW/NE	19	41S	24E	SAN JUAN	10-07-98	11-10-98
WELL 1 COMMENTS: HORIZONTAL COMPLETION!											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See instructions on back of form)
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)

Lee Mosley for
Signature SHIRLEY HOUCHINS

ENV & REG TECHNICIAN
Title

12-23-98
Date

Phone No. (915) 688-2584

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 19-31
9. API Well No.: 43-037-31047
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 19, T41S, R24E
NW/NE 510' FNL & 1980' FEL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[X] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other SIDETRACK	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:

LATERAL #1: 1008' NORTH & 1244' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2: 1161' SOUTH & 1104' EAST FROM SURFACE SPOT (ZONE 1a).

10-07-98 -- 11-10-98 HORIZONTAL RECOMPLETION.

ATTACHED FORM 15

RECEIVED
FEB 01 1999
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Sue Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 1-28-99

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*** See Instruction on Reverse Side**

WTC 3-1-99 RJK

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 19-31
9. API Well No.: 43-037-31047
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 19, T41S, R24E
NW/NE 510' FNL & 1980' FEL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[X] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other ACIDIZE	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:

LATERAL #1; 1008' NORTH & 1244' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2; 1161' SOUTH & 1104' EAST FROM SURFACE SPOT (ZONE 1a).

02-06-99 -- 02-17-99 ADDITIONAL COMPLETION / ACIDIZE

RECEIVED
MAR 11 1999
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Sue Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 03-08-99

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

ATTACHMENT – FORM 3160-5
RATHERFORD UNIT – WELL #19-31
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH

02-06-99	MIRU MONTEZUMA DDPU #36. POH LAY DOWN AND RODS. SWISDFN.
02-07-99	SITP 50# CSG 50#. ND NU, FLOWED WELL TBG/CSG PSI CAME UP TO 200# BLED CSG OFF TBG STILL FLOWING SWISDFN.
02-08-99	SITP 150# CSG 35# BLED OFF CSG TBG. KILL WELL. RIH W/ MULE SHOE. PKR ON 2.875" TBG , SWISDFN.
02-09-99	UNIT STIP 30# CSG 150#. RIH W/ TREATING EQUIP, TIW PKR @ 5461', SET PKR @ 5387' EOT @ 5727', LOAD CSG, TEST 500# OK. PREPARE FLOOR & WO DOWELL, SWISDFN.
02-10-99	D/S MIRU, ACIDIZED LATERAL 1A1 F/ 5727-6640' W/ 10602 GALS 15% HCL ACID. SWISDFN.
02-11-99	SITP 0# CSG 200#. MIRU D/S, ACIDIZED LATERAL 2A1 F/5632-7190' W/ 16120 GALS 15% HCL ACID. SWISDFN.
02-12-99	SITP VAC. CSG 100#. BLED DOWN CSG. TRY TO REL PKR. SWISDFN.
02-13-99	SITP 200# CSG 0#. KILL WELL. CHANGE OUT TBG FLOATS. RIH W/ PROD. TBG FOR ROD PUMP, NIP DOWN HYDRIL/BOP NU WELL HEAD SWISDFN & SUNDAY.
02-14-99	SWISDFN & SUNDAY.
02-15-99	SITP 200#. SWAB 10 BNO + 30 BLW. FLUID LEVEL 600' TO 1200'. SO 25% OIL, 75% WATER. SIFN.
02-16-99	SITP AT 07:30 WAS 350 PSI., SICP AT 07:30 WAS 270 PSI. RU KILL TBG. WELL DEAD. RU AND RIH W/ TRICO DOWN HOLE PUMP, 2.5" X 2" X 24'. LAND PUMP IN SEATING NIPPLE AT 5396.84'. RD RIG #36. SIFN.
02-17-99	MOVE OFF MONTEZUMA WELL SERVICE RIG #36. CLEAN LOCATION. FINAL COMPLETION REPORT. TURN WELL OVER TO PRODUCTION.

ExxonMobil Production Compa
U.S. West
P.O. Box 4358
Houston, Texas 77210-4358

June 27, 2001

ExxonMobil
Production

Mr. Jim Thompson
State of Utah, Division of Oil, Gas and Mining
1549 West North Temple
Suite 1210
Salt Lake City, UT 84114-5801

Change of Name – Mobil Oil Corporation to
ExxonMobil Oil Corporation

Dear Mr. Thompson

Effective June 1, 2001, Mobil Oil Corporation (MOC) changed its name to ExxonMobil Oil Corporation (EMOC). This was a name change only; EMOC is the same corporation as Mobil Oil Corporation, but with a new name. No facility or other asset was transferred from one corporation to another by virtue of the name change. Specifically, EMOC will remain the owner and operator of its existing exploration and production oil and gas properties and facilities, as well as relevant permits.

There is no change to the name of Exxon Mobil Corporation, the ultimate shareholder of EMOC.

Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

The Federal Identification Number for MOC (13-5401570) will remain the same for EMOC.

A copy of the Certification, Bond Rider and a list of wells are attached.

If you have any questions please feel free to call Joel Talavera at 713-431-1010

Very truly yours,

Charlotte H. Harper

Charlotte H. Harper
Permitting Supervisor

ExxonMobil Production Company
a division of Exxon Mobil Corporation,
acting for ExxonMobil Oil Corporation

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
~~XXXXXXXXXXXXXXX~~
Navajo Area Office
NAVAJO REGION
P.O. Box 1060
Gallup, New Mexico 87305-1060

IN REPLY REFER TO:

RRES/543

AUG 30 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Charlotte H. Harper, Permitting Supervisor
Exxon Mobil Production Company
U. S. West
P. O. Box 4358
Houston, TX 77210-4358

Dear Ms. Harper:

This is to acknowledge receipt of your company's name change from Mobil Oil Corporation to ExxonMobil Oil Corporation effective June 1, 2001. The receipt of documents includes the Name Change Certification, current listing of Officers and Directors, Listing of Leases, Financial Statement, filing fees of $75.00 and a copy of the Rider for Bond Number 8027 31 97. There are no other changes.

Please note that we will provide copies of these documents to other concerned parties. If you need further assistance, you may contact Ms. Bertha Spencer, Realty Specialist, at (928) 871-5938.

Sincerely,

DENNIS DENETSONE

Regional Realty Officer

cc: BLM, Farmington Field Office w/enclosures ✓
Navajo Nation Minerals Office, Attn: Mr. Akhtar Zaman, Director/w enclosures

MINERAL RESOURCES
ADM 1 BLM
NATV AM MIN COORD
SOLID MIN TEAM
PETRO MGMT TEAM 2
O & G INSPECT TEAM
ALL TEAM LEADERS
LAND RESOURCES
ENVIRONMENT
FILES

ExxonMobil Production Company
U.S. West
P.O. Box 4358
Houston, Texas 77210-4358

PBR 7/12/2001
GN
543
File

June 27, 2001

ExxonMobil
Production

Certified Mail
Return Receipt Requested

Ms. Genni Denetsone
United States Department of the Interior
Bureau of Indian Affairs, Navajo Region
Real Estate Services
P. O. Box 1060
Gallup, New Mexico 87305-1060
Mail Code 543

Change of Name –
Mobil Oil Corporation to
ExxonMobil Oil Corporation

Dear Ms. Denetsone:

Effective June 1, 2001, Mobil Oil Corporation (MOC) changed its name to ExxonMobil Oil Corporation (EMOC). This was a name change only; EMOC is the same corporation as Mobil Oil Corporation, but with a new name. No facility or other asset was transferred from one corporation to another by virtue of the name change. Specifically, EMOC will remain the owner and operator of its existing exploration and production oil and gas properties and facilities, as well as relevant permits.

There is no change to the name of Exxon Mobil Corporation, the ultimate shareholder of EMOC.

Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

The Federal Identification Number for MOC (13-5401570) will remain the same for EMOC.

Attached is the Name Change Certification, Current listing of Officers and Directors, Filing Fee of $75/-, Listing of Leases, Financial Statement and a copy of the Rider for Bond number 8027 31 97. The original Bond Rider has been sent to Ms. Barbar Davis at your Washington Office.

If you have any questions , please contact Alex Correa at (713) 431-1012.

Very truly yours,

Charlotte H. Harper

Charlotte H. Harper
Permitting Supervisor

Attachments

ExxonMobil Production Company
a division of Exxon Mobil Corporation,
acting for ExxonMobil Oil Corporation

NOTE: Check forwarded to Ella Jose

Bureau of Indian Affairs
Navajo Region Office
Attn: RRES - Mineral and Mining Section
P.O. Box 1060
Gallup, New Mexico 87305-1060

Gentlemen:

The current listing of officers and director of ExxonMobil Oil Corporation (Name of Corporation), of New York (State) is as follows:

OFFICERS

President	F.A. Risch	Address	5959 Las Colinas Blvd. Irving, TX 75039
Vice President	K.T. Koonce	Address	800 Bell Street Houston, TX 77002
Secretary	F.L. Reid	Address	5959 Las Colinas Blvd. Irving, TX 75039
Treasure	B.A. Maher	Address	5959 Las Colinas Blvd. Irving, TX 75039

DIRECTORS

Name	D.D. Humphreys	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	P.A. Hanson	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	T.P. Townsend	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	B.A. Maher	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	F.A. Risch	Address	5959 Las Colinas Blvd. Irving, TX 75039

Sincerely,

Alex Correa

This is to certify that the above information pertaining to ExxonMobil Oil Corporation (Corporation) is trust and correct as evidenced by the records and accounts covering business for the State of Utah and in the custody of Corporation Service Company (Agent), Phone: 1 (800)927-9800, whose business address is One Utah Center, 201 South Main Street, Salt Lake City, Utah 84111-2218

(CORPORATE SEAL)

Signature

AGENT AND ATTORNEY IN FACT
Title

SAL

CERTIFICATION

I, the undersigned Assistant Secretary of ExxonMobil Oil Corporation. (formerly Mobil Oil Corporation), a corporation organized and existing under the laws of the State of New York, United States of America, DO HEREBY CERTIFY, That, the following is a true and exact copy of the resolutions adopted by the Board of Directors on May 22, 2001:

CHANGE OF COMPANY NAME

WHEREAS, the undersigned Directors of the Corporation deem it to be in the best interest of the Corporation to amend the Certificate of Incorporation of the Corporation to change the name and principal office of the Corporation:

NOW THEREFORE BE IT RESOLVED, That Article 1st relating to the corporate name is hereby amended to read as follows:

"1st The corporate name of said Company shall be,

ExxonMobil Oil Corporation",

FURTHER RESOLVED, That the amendment of the Corporation's Certificate of Incorporation referred to in the preceding resolutions be submitted to the sole shareholder of the Corporation entitled to vote thereon for its approval and, if such shareholder gives its written consent, pursuant to Section 803 of the Business Corporation Law of the State of New York, approving such amendment, the proper officers of the Corporation be, and they hereby are, authorized to execute in the name of the Corporation the Certificate of Amendment of Certificate of Incorporation, in the form attached hereto;

FURTHER RESOLVED, That the proper officers of the Corporation be and they hereby are authorized and directed to deliver, file and record in its behalf, the Certificate of Amendment of Certificate of Incorporation, and to take such action as may be deemed necessary or advisable to confirm and make effective in all respects the change of this Company's name to EXXONMOBIL OIL CORPORATION.

WITNESS, my hand and the seal of the Corporation at Irving, Texas, this 8th day of June, 2001.

D. A. Millican
Assistant Secretary

COUNTY OF DALLAS)
STATE OF TEXAS)
UNITED STATES OF AMERICA)
Sworn to and subscribed before me at Irving, Texas, U. S. A. on this the 8th day of June, 2001.

Janice M. Phillips
Notary Public

LISTING OF LEASES OF MOBIL OIL CORPORATION

	Lease Number
1)	14-20-0603-6504
2)	14-20-0603-6505
3)	14-20-0603-6506
4)	14-20-0603-6508
5)	14-20-0603-6509
6)	14-20-0603-6510
7)	14-20-0603-7171
8)	14-20-0603-7172A
9)	14-20-600-3530
10)	14-20-603-359
11)	14-20-603-368
12)	14-20-603-370
13)	14-20-603-370A
14)	14-20-603-372
15)	14-20-603-372A
16)	14-20-603-4495
17)	14-20-603-5447
18)	14-20-603-5448
19)	14-20-603-5449
20)	14-20-603-5450
21)	14-20-603-5451

6/1/01

CHUBB GROUP OF INSURANCE COMPANIES

[illegible] South, Suite 1400, Houston, Texas 77027-3301
[illegible] 713) 297-4600 • Facsimile (713) 297-4750

NW Bond

FEDERAL INSURANCE COMPANY RIDER
to be attached to and form a part of

BOND NO 8027 31 97
wherein
Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc. is named as Principal and

FEDERAL INSURANCE COMPANY AS SURETY,

in favor of **United States of America, Department of the Interior Bureau of Indian Affairs**

in the amount of **$150,000.00**
bond date: 11/01/65

IT IS HEREBY UNDERSTOOD AND AGREED THAT effective **June 1, 2001** the name of the Principal is changed

FROM: **Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc.**

TO : **ExxonMobil Oil Corporation**

All other terms and conditions of this Bond are unchanged.

Signed, sealed and dated this 12th of June, 2001.

ExxonMobil Oil Corporation

By: _____

FEDERAL INSURANCE COMPANY

By: Mary Pierson
Mary Pierson, Attorney-in-fact

Chubb Surety | **POWER OF ATTORNEY** | **Federal Insurance Company, Vigilant Insurance Company, Pacific Indemnity Company** | **Attn.: Surety Department, 15 Mountain View Road, Warren, NJ 07059**

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint R.F. Bobo, Mary Pierson, Philana Berros, and Jody E. Specht of Houston, Texas----------

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 10th day of May, 2001.

Kenneth C. Wendel, Assistant Secretary

Frank E. Robertson, Vice President

STATE OF NEW JERSEY }
County of Somerset } ss.

On this 10th day of May, 2001, before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel being by me duly sworn, did depose and say that he is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By-Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with Frank E. Robertson, and knows him to be Vice President of said Companies; and that the signature of Frank E. Robertson, subscribed to said Power of Attorney is in the genuine handwriting of Frank E. Robertson, and that said Power of Attorney was thereto subscribed by authority of said Karen A. Price deponent's presence.

KAREN A. PRICE NOTARY PUBLIC NEW JERSEY

Notary Public State of New Jersey
No. 2231647
Commission Expires Oct. 28, 2004

Karen A. Price
Notary Public

CERTIFICATION

Extract from the By-Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

(i) the foregoing extract of the By-Laws of the Companies is true and correct,
(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U. S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U. S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 12th day of June, 2001.

FEDERAL INSURANCE COMPANY · INDIANA · PACIFIC INDEMNITY COMPANY INCORPORATED AUG. 16, 1937 WISCONSIN VIGILANT INSURANCE COMPANY NEW YORK

Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903-3485 Fax (908) 903-3656 e-mail: surety@chubb.com

15-10-0225 (Ed. 4-99) CONSENT

F010601000187

CSC 45

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

OF

MOBIL OIL CORPORATION

(Under Section 805 of the Business Corporation Law)

Pursuant to the provisions of Section 805 of the Business Corporation Law, the undersigned President and Secretary, respectively, of Mobil Oil Corporation hereby certify:

FIRST: That the name of the corporation is MOBIL OIL CORPORATION and that said corporation was incorporated under the name of Standard Oil Company of New York.

SECOND: That the Certificate of Incorporation of the corporation was filed by the Department of State, Albany, New York, on the 10th day of August, 1882.

THIRD: That the amendments to the Certificate of Incorporation effected by this Certificate are as follows:

(a) Article 1st of the Certificate of Incorporation, relating to the corporate name, is hereby amended to read as follows:

"1st The corporate name of said Company shall be,

ExxonMobil Oil Corporation",

(b) Article 7th of the Certificate of Incorporation, relating to the office of the corporation is hereby amended to read as follows:

The office of the corporation within the State of New York is to be located in the County of Albany. The Company shall have offices at such other places as the Board of Directors may from time to time determine.

FOURTH: That the amendments to the Certificate of Incorporation were authorized by the Board of Directors followed by the holder of all outstanding shares entitled to vote on amendments to the Certificate of Incorporation by written consent of the sole shareholder dated May 22, 2001.

IN WITNESS WHEREOF, this Certificate has been signed this 22nd Day of May, 2001.

F. A. Risch, President

STATE OF TEXAS)
COUNTY OF DALLAS)

F. L. REID, being duly sworn, deposes and says that he is the Secretary of MOBIL OIL CORPORATION, the corporation mentioned and described in the foregoing instrument; that he has read and signed the same and that the statements contained therein are true.

F. L. REID, Secretary

SUBSCRIBED AND SWORN TO before me, the undersigned authority, on this the 22nd day of May, 2001.

[SEAL]

NOTARY PUBLIC, STATE OF TEXAS

JANICE M. PHILLIPS
MY COMMISSION EXPIRES
May 16, 2002

CSC
CSC 5184334741 06/01 '01 09:01 NO.411 02/02
06/01 '01 09:06 NO.133 04/04

F010601000187

CSC 45

CERTIFICATE OF AMENDMENT

OF

MOBIL OIL CORPORATION

Under Section 805 of the Business Corporation Law

SRC

100 cc

STATE OF NEW YORK
DEPARTMENT OF STATE
FILED JUN 01 2001
TAX $
BY: SRC

Filed by: EXXONMOBIL CORPORATION
(Name)

6959 Las Colinas Blvd.
(Mailing address)

Irving, TX 75039-2298
(City, State and Zip code)

NY Albany

Cust Ref # 1655781MPT

RECEIVED
JUL 05 2001
DIVISION OF REAL ESTATE SERVICES

010601000195

State of New York }
Department of State } ss:

I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.

Witness my hand and seal of the Department of State on JUN 01 2001

STATE OF NEW YORK ★ DEPARTMENT OF STATE ★ EXCELSIOR

Special Deputy Secretary of State

DOS-1266 (7/00)

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. GLH
2. CDW ✓
3. FILE

Change of Operator (Well Sold) — Designation of Agent

X Operator Name Change — Merger

The operator of the well(s) listed below has changed, effective: **06-01-2001**

FROM: (Old Operator):	**TO:** (New Operator):
MOBIL EXPLORATION & PRODUCTION	EXXONMOBIL OIL CORPORATION
Address: P O BOX DRAWER "G"	Address: U S WEST P O BOX 4358
CORTEZ, CO 81321	HOUSTON, TX 77210-4358
Phone: 1-(970)-564-5212	Phone: 1-(713)-431-1010
Account No. N7370	Account No. N1855

CA No. **Unit:** **RATHERFORD**

WELL(S)

NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
RATHERFORD UNIT 17-33	17-41S-24E	43-037-31134	6280	INDIAN	OW	P
RATHERFORD UNIT 17-11	17-41S-24E	43-037-31169	6280	INDIAN	OW	S
RATHERFORD UNIT 17-22	17-41S-24E	43-037-31170	6280	INDIAN	OW	P
RATHERFORD UNIT 17-42	17-41S-24E	43-037-31177	6280	INDIAN	OW	P
RATHERFORD UNIT 17-31	17-41S-24E	43-037-31178	6280	INDIAN	OW	P
18-11	18-41S-24E	43-037-15733	6280	INDIAN	OW	P
RATHERFORD 18-13	18-41S-24E	43-037-15734	6280	INDIAN	OW	P
RATHERFORD UNIT 18-44	18-41S-24E	43-037-31045	6280	INDIAN	OW	P
RATHERFORD UNIT 18-24	18-41S-24E	43-037-31079	6280	INDIAN	OW	P
RATHERFORD UNIT 18-33	18-41S-24E	43-037-31135	6280	INDIAN	OW	P
RATHERFORD UNIT 18-31	18-41S-24E	43-037-31181	6280	INDIAN	OW	P
RATHERFORD UNIT 18-42	18-41S-24E	43-037-31182	6280	INDIAN	OW	P
RATHERFORD UNIT 18-22	18-41S-24E	43-037-31236	6280	INDIAN	OW	P
19-42	19-41S-24E	43-037-30916	6280	INDIAN	OW	P
RATHERFORD UNIT 19-22	19-41S-24E	43-037-31046	6280	INDIAN	OW	P
RATHERFORD UNIT 19-31	19-41S-24E	43-037-31047	6280	INDIAN	OW	P
RATHERFORD UNIT 19-33	19-41S-24E	43-037-31048	6280	INDIAN	OW	P
RATHERFORD UNIT 19-11	19-41S-24E	43-037-31080	6280	INDIAN	OW	P
RATHERFORD UNIT 19-44	19-41S-24E	43-037-31081	6280	INDIAN	OW	P
RATHERFORD 19-97	19-41S-24E	43-037-31596	6280	INDIAN	OW	P

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 06/29/2001
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 06/29/2001
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 04/09/2002
4. Is the new operator registered in the State of Utah: YES Business Number: 579865-0143
5. If **NO**, the operator was contacted contacted on: N/A

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BIA-06/01/01

7. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: 06/01/2001

8. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: N/A

9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 04/15/2002
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 04/15/2002
3. Bond information entered in RBDMS on: N/A
4. Fee wells attached to bond in RBDMS on: N/A

STATE WELL(S) BOND VERIFICATION:

1. State well(s) covered by Bond Number: N/A

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: N/A

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: 80273197

FEE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number N/A
2. The **FORMER** operator has requested a release of liability from their bond on: N/A
The Division sent response by letter on: N/A

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

COMMENTS:

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. DJJ
2. CDW

X Change of Operator (Well Sold) Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective: **6/1/2006**

FROM: (Old Operator):	**TO:** (New Operator):
N1855-ExxonMobil Oil Corporation	N2700-Resolute Natural Resources Company
PO Box 4358	1675 Broadway, Suite 1950
Houston, TX 77210-4358	Denver, CO 80202
Phone: 1 (281) 654-1936	Phone: 1 (303) 534-4600

CA No. **Unit:** **RATHERFORD**

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 4/21/2006
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 4/24/2006
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 6/7/2006
4. Is the new operator registered in the State of Utah: YES Business Number: 5733505-0143
5. If **NO**, the operator was contacted contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: requested

6b. Inspections of LA PA state/fee well sites complete on: n/a

6c. Reports current for Production/Disposition & Sundries on: ok

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM n/a BIA not yet
8. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
9. **Federal and Indian Communization Agreements ("CA"):** The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 6/12/2006

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 6/22/2006
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 6/22/2006
3. Bond information entered in RBDMS on: n/a
4. Fee/State wells attached to bond in RBDMS on: n/a
5. Injection Projects to new operator in RBDMS on: 6/22/2006
6. Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: n/a
2. Indian well(s) covered by Bond Number: PA002769
3. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number n/a

a. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

4. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

COMMENTS:

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:	See attached list
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	Navajo Tribe
7. UNIT or CA AGREEMENT NAME:	Ratherford Unit
8. WELL NAME and NUMBER:	See attached list
9. API NUMBER:	Attached
10. FIELD AND POOL, OR WILDCAT:	Greater Aneth

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Unit Agreement

2. NAME OF OPERATOR: Resolute Natural Resources Company N2700

3. ADDRESS OF OPERATOR: 1675 Broadway, Suite 1950 CITY Denver STATE CO ZIP 80202 PHONE NUMBER: (303) 534-4600

4. LOCATION OF WELL
FOOTAGES AT SURFACE: See attached list COUNTY: San Juan
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
_____	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER: _____
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective June 1, 2006 Exxon Mobil Oil Corporation resigns as operator of the Ratherford Unit. Also effective June 1, 2006 Resolute Natural Resources Company is designated as successor operator of the Ratherford Unit.

A list of affected producing and water source wells is attached. A separate of affected injection wells is being submitted with UIC Form 5, Transfer of Authority to Inject.

As of the effective date, bond coverage for the affected wells will transfer to BIA Bond # PA002769.

NAME (PLEASE PRINT) Dwight E Mallory TITLE Regulatory Coordinator

SIGNATURE Dwight E Mallory DATE 4/20/2006

(This space for State use only)

APPROVED 6/27/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

RECEIVED
APR 24 2006
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ship Rock

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME: UTU68931A

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: Ratherford

2. NAME OF OPERATOR: ExxonMobil Oil Corporation N1855

9. API NUMBER: attached

3. ADDRESS OF OPERATOR: P.O. Box 4358 CITY Houston STATE TX ZIP 77210-4358

PHONE NUMBER: (281) 654-1936

10. FIELD AND POOL, OR WILDCAT: Aneth

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: San Juan

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 6/1/2006	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
Date of work completion:	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

ExxonMobil Oil Corporation is transferring operatorship of Greater Aneth field, Ratherford lease to Resolute Natural Resources Company. All change of operator notices should be made effective as of 7:00 AM MST on June 1, 2006.

Attached please find a listing of producers and water source wells included in the transfer.

NAME (PLEASE PRINT) Laurie Kilbride TITLE Permitting Supervisor

SIGNATURE Laurie B. Kilbride DATE 4/19/2006

(This space for State use only)

APPROVED 6/27/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

RECEIVED
APR 21 2006
DIV. OF OIL, GAS & MINING

(5/2000)

Ratherford Unit - Producer Well List

minus P&A's

Lease	Number	API #	Status	Lease #	Location					
					Sec	T	R	QTR/QTR	NSFoot	EWFoot
Ratherford	01-14	430373116200S1	Producing	1420603246A	1	41S	23E	SWSW	0660FSL	0660FWL
Ratherford	01-34	430371638501S1	SI	1420603246A	1	41S	23E	SWSE	1133FSL	1980FEL
Ratherford	11-41	430373154400S1	Producing	1420603246A	11	41S	23E	NENE	0860FNL	0350FEL
Ratherford	11-43	430373162201S1	Producing	1420603246A	11	41S	23E	NESE	1980FSL	0660FEL
Ratherford	12-12	430373119000S1	Producing	1420603246A	12	41S	23E	SWNW	1850FNL	0660FWL
Ratherford	12-14	430371584400S1	SI	1420603246A	12	41S	23E	SWSW	0660FSL	4622FEL
Ratherford	12-21	430373120100S1	Producing	1420603246A	12	41S	23E	NENW	0660FNL	1980FWL
Ratherford	12-23	430371584601S1	Producing	1420603246A	12	41S	23E	NESW	1958FSL	3300FEL
Ratherford	12-32	430373120300S1	Producing	1420603246A	12	41S	23E	SWNE	1820FNL	1820FEL
Ratherford	12-34	430373112600S1	Producing	1420603246A	12	41S	23E	SWSE	0675FSL	1905FEL
Ratherford	12-43	430373120200S1	SI	1420603246A	12	41S	23E	NESE	2100FSL	0660FEL
Ratherford	13-12	430373112701S1	Producing	1420603247A	13	41S	23E	SWNW	1705FNL	0640FWL
Ratherford	13-14	430373158900S1	Producing	1420603247A	13	41S	23E	SWSW	0660FSL	0660FWL
Ratherford	13-21	430373112801S1	SI	1420603247A	13	41S	23E	NENW	0660FNL	1920FWL
Ratherford	13-23	430373112900S1	Producing	1420603247A	13	41S	23E	NESW	1980FSL	1930FWL
Ratherford	13-34	430373113001S1	Producing	1420603247A	13	41S	23E	SWSE	0660FSL	1980FEL
Ratherford	13-41	430371585601S1	Producing	1420603247A	13	41S	23E	NENE	660FNL	660FEL
Ratherford	13-43	430373113100S1	Producing	1420603247A	13	41S	23E	NESE	1700FSL	0960FEL
Ratherford	14-32	430371585801S1	Producing	1420603247A	14	41S	23E	SWNE	2130FNL	1830FEL
Ratherford	14-41	430373162300S1	Producing	1420603247A	14	41S	23E	NENE	0521FNL	0810FEL
Ratherford	24-32	430373159300S1	Producing	1420603247A	24	41S	23E	SWNE	2121FNL	1846FEL
Ratherford	24-41	430373113200S1	Producing	1420603247A	24	41S	23E	NENE	0660FNL	0710FEL
Ratherford	17-11	430373116900S1	Producing	1420603353	17	41S	24E	NWNW	1075FNL	0800FWL
Ratherford	17-13	430373113301S1	Producing	1420603353	17	41S	24E	NWSW	2100FSL	0660FWL
Ratherford	17-22	430373117001S1	Producing	1420603353	17	41S	24E	SENW	1882FNL	1910FWL
Ratherford	17-24	430373104400S1	Producing	1420603353	17	41S	24E	SESW	0720FSL	1980FWL
Ratherford	17-31	430373117800S1	Producing	1420603353	17	41S	24E	NWNE	0500FNL	1980FEL
Ratherford	17-33	430373113400S1	Producing	1420603353	17	41S	24E	NWSE	1980FSL	1845FEL
Ratherford	17-42	430373117700S1	Producing	1420603353	17	41S	24E	SENE	1980FNL	0660FEL
Ratherford	17-44	430371573201S1	Producing	1420603353	17	41S	24E	SESE	0660FSL	0660FEL
Ratherford	18-11	430371573300S1	SI	1420603353	18	41S	24E	NWNW	0720FNL	0730FWL
Ratherford	18-13	430371573401S1	Producing	1420603353	18	41S	24E	NWSW	1980FSL	0500FWL
Ratherford	18-22	430373123600S1	Producing	1420603353	18	41S	24E	SENW	2200FNL	2210FWL
Ratherford	18-24	430373107900S1	Producing	1420603353	18	41S	24E	SESW	0760FSL	1980FWL
Ratherford	18-31	430373118101S1	Producing	1420603353	18	41S	24E	NWNE	0795FNL	2090FEL
Ratherford	18-33	430373113501S1	Producing	1420603353	18	41S	24E	NWSE	1870FSL	1980FEL
Ratherford	18-42	430373118200S1	Producing	1420603353	18	41S	24E	SENE	2120FNL	0745FEL
Ratherford	18-44	430373104500S1	SI	1420603353	18	41S	24E	SESE	0660FSL	0660FEL
Ratherford	19-11	430373108000S1	Producing	1420603353	19	41S	24E	NWNW	0660FNL	0660FWL
Ratherford	19-13	430373171900S1	Producing	1420603353	19	41S	24E	NWSW	1980FSL	0660FWL
Ratherford	19-22	430373104601S1	Producing	1420603353	19	41S	24E	SENW	1840FNL	1980FWL
Ratherford	19-24	430373175401S1	Producing	1420603353	19	41S	24E	SESW	0600FSL	1980FWL
Ratherford	19-31	430373104701S1	Producing	1420603353	19	41S	24E	NWNE	510FNL	1980FEL
Ratherford	19-33	430373104800S1	Producing	1420603353	19	41S	24E	NWSE	1980FSL	1980FEL
Ratherford	19-42	430373091600S1	Producing	1420603353	19	41S	24E	SENE	1880FNL	0660FEL
Ratherford	19-44	430373108100S1	Producing	1420603353	19	41S	24E	SESE	0660FSL	0660FEL
Ratherford	19-97	430373159600S1	Producing	1420603353	19	41S	24E	SENE	2562FNL	0030FEL
Ratherford	20-11	430373104900S1	Producing	1420603353	20	41S	24E	NWNW	0500FNL	0660FWL
Ratherford	20-13	430373091700S1	Producing	1420603353	20	41S	24E	NWSW	2140FSL	0500FWL
Ratherford	20-22	430373093000S1	Producing	1420603353	20	41S	24E	SENW	2020FNL	2090FWL
Ratherford	20-24	430373091800S1	Producing	1420603353	20	41S	24E	SESW	0820FSL	1820FWL

Ratherford Unit - Producer Well List

minus P&A's

Lease	Number	API #	Status	Lease #	Location					
					Sec	T	R	QTR/QTR	NSFoot	EWFoot
Ratherford	20-31	430373105001S1	Producing	1420603353	20	41S	24E	NWNE	0660FNL	1880FEL
Ratherford	20-33	430373093100S1	Producing	1420603353	20	41S	24E	NWSE	1910FSL	2140FEL
Ratherford	20-42	430373105100S1	Producing	1420603353	20	41S	24E	SENE	1980FNL	0660FEL
Ratherford	20-44	430373091501S1	Producing	1420603353	20	41S	24E	SESE	0620FSL	0760FEL
Ratherford	20-66	430373159201S1	Producing	1420603353	20	41S	24E	SWNW	1369FNL	1221FWL
Ratherford	20-68	430373159100S1	Producing	1420603353	20	41S	24E	NWSW	1615FSL	1276FWL
Ratherford	15-12	430371571501S1	Producing	1420603355	15	41S	24E	SWNW	1820FNL	0500FWL
Ratherford	15-22	430373044900S1	SI	1420603355	15	41S	24E	SENW	1980FNL	2050FWL
Ratherford	15-32	430371571700S1	Producing	1420603355	15	41S	24E	SWNE	1980FNL	1980FEL
Ratherford	15-33	430371571800S1	Producing	1420603355	15	41S	24E	NWSE	1650FSL	1980FEL
Ratherford	15-41	430371571900S1	TA	1420603355	15	41S	24E	NENE	0660FNL	0660FEL
Ratherford	15-42	430373044800S1	Producing	1420603355	15	41S	24E	SENE	2020FNL	0820FEL
Ratherford	16-13	430373116801S1	Producing	1420603355	16	41S	24E	NWSW	1980FSL	660FWL
Ratherford	16-32	430371572300S1	Producing	1420603355	16	41S	24E	SWNE	1980FNL	1980FEL
Ratherford	16-41	430371572500S1	Producing	1420603355	16	41S	24E	NENE	0660FNL	0660FEL
Ratherford	16-77	430373176800S1	Producing	1420603355	16	41S	24E	NESW	2587FSL	2410FWL
Ratherford	21-23	430371375400S1	Producing	1420603355	21	41S	24E	NESW	1740FSL	1740FWL
Ratherford	21-24	430373172001S1	SI	1420603355	21	41S	24E	SESW	487FSL	2064FWL
Ratherford	21-32	430371575500S1	SI	1420603355	21	41S	24E	SWNE	1880FNL	1980FEL
Ratherford	21-77	430373175801S1	SI	1420603355	21	41S	24E	NWSE	2511FSL	2446FEL
Ratherford	07-11	430373116300S1	Producing	1420603368	7	41S	24E	NWNW	0660FNL	0710FWL
Ratherford	07-13	430373116400S1	Producing	1420603368	7	41S	24E	NWSW	2110FSL	0740FWL
Ratherford	07-22	430373116500S1	Producing	1420603368	7	41S	24E	SENW	1980FNL	1980FWL
Ratherford	07-24	430373116600S1	Producing	1420603368	7	41S	24E	SESW	0880FSL	2414FWL
Ratherford	07-44	430373118900S1	SI	1420603368	7	41S	24E	SESE	0737FSL	0555FEL
Ratherford	08-12	430371599100S1	Producing	1420603368	8	41S	24E	SWNW	1909FNL	0520FWL
Ratherford	08-21	430371599300S1	Producing	1420603368	8	41S	24E	NENW	0616FNL	1911FWL
Ratherford	08-23	430371599400S1	Producing	1420603368	8	41S	24E	NESW	1920FSL	2055FWL
Ratherford	08-32	430371599500S1	Producing	1420603368	8	41S	24E	SWNE	1980FNL	1980FEL
Ratherford	08-34	430371599600S1	Producing	1420603368	8	41S	24E	SWSE	0660FSL	1980FEL
Ratherford	04-34	430371616400S1	Producing	14206034035	4	41S	24E	SWSE	0660FSL	1980FEL
Ratherford	11-14	430371616700S1	Producing	14206034037	11	41S	24E	SWSW	0660FSL	0660FWL
Ratherford	09-34	430371571100S1	SI	14206034043	9	41S	24E	SWSE	0660FSL	1980FEL
Ratherford	10-12	430371571200S1	Producing	14206034043	10	41S	24E	SWNW	1980FNL	0660FWL
Ratherford	10-14	430371571300S1	Producing	14206034043	10	41S	24E	SWSW	0510FSL	0710FWL
Ratherford	10-32	430371571400S1	TA	14206034043	10	41S	24E	SWNE	2080FNL	1910FEL
Ratherford	10-44	430373045100S1	TA	14206034043	10	41S	24E	SESE	0820FSL	0510FEL
Ratherford	29-11	430373105300S1	Producing	1420603407	29	41S	24E	NWNW	0770FNL	0585FWL
Ratherford	29-22	430373108200S1	Producing	1420603407	29	41S	24E	SENW	2130FNL	1370FWL
Ratherford	29-31	430373091401S1	Producing	1420603407	29	41S	24E	NWNE	0700FNL	2140FEL
Ratherford	29-33	430373093200S1	SI	1420603407	29	41S	24E	NWSE	1860FSL	1820FEL
Ratherford	29-34	430371534000S1	SI	1420603407	29	41S	24E	SWSE	0817FSL	2096FEL
Ratherford	29-42	430373093700S1	SI	1420603407	29	41S	24E	SENE	1850FNL	0660FEL
Ratherford	30-32	430371534200S1	Producing	1420603407	30	41S	24E	SWNE	1975FNL	2010FEL
Ratherford	28-11	430373044600S1	Producing	1420603409	28	41S	24E	NWNW	0520FNL	0620FWL

Ratherford Unit - Producer Well List

minus P&A's

Lease	Number	API #	Status	Lease #	Location					
					Sec	T	R	QTR/QTR	NSFoot	EWFoot
Ratherford	09-12	430371512600S1	Producing	14206035045	9	41S	24E	SWNW	1865FNL	0780FWL
Ratherford	09-14	430371512700S1	Producing	14206035046	9	41S	24E	SWSW	0695FSL	0695FWL
Ratherford	04-14	430371616300S1	Producing	14206035446	4	41S	24E	SWSW	0500FSL	0660FWL
Ratherford	03-12	430371562000S1	Producing	14206036506	3	41S	24E	SWNW	2140FNL	0660FWL

Water Source Wells (Feb 2006)

RU	S1	4303700001	Active
RU	S2	4303700002	Active
RU	S3	4303700003	Active
RU	S4	4303700004	Active
RU	S5	4303700005	Active
RU	S6	4303700006	Active
RU	S7	4303700007	Active
RU	S8	4303700008	Active
RU	S9	4303700009	Active
RU	S10	4303700010	Active
RU	S11	4303700011	Active
RU	S12	4303700012	Active
RU	S13	4303700013	Active
RU	S14	4303700014	Active
RU	S16	4303700016	Active
RU	S17	4303700017	Active

Sundry Number: 63434 API Well Number: 43037310470000

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
14-20-603-353

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
NAVAJO

7.UNIT or CA AGREEMENT NAME:
RATHERFORD

1. TYPE OF WELL
Oil Well

8. WELL NAME and NUMBER:
RATHERFORD UNIT 19-31

2. NAME OF OPERATOR:
RESOLUTE NATURAL RESOURCES

9. API NUMBER:
43037310470000

3. ADDRESS OF OPERATOR:
1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535

PHONE NUMBER:
303 534-4600 Ext

9. FIELD and POOL or WILDCAT:
GREATER ANETH

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0510 FNL 1980 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 19 Township: 41.0S Range: 24.0E Meridian: S

COUNTY:
SAN JUAN

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 5/30/2015	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	✓ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Resolute Natural Resources respectfully submits this sundry as notice of a tubing repair on the above well. Attached are the procedures and schematic

Accepted by the Utah Division of Oil, Gas and Mining

Date: May 28, 2015

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Erin Joseph	303 573-4886	Sr. Regulatory Analyst

SIGNATURE	DATE
N/A	5/21/2015

RECEIVED: May. 21, 2015

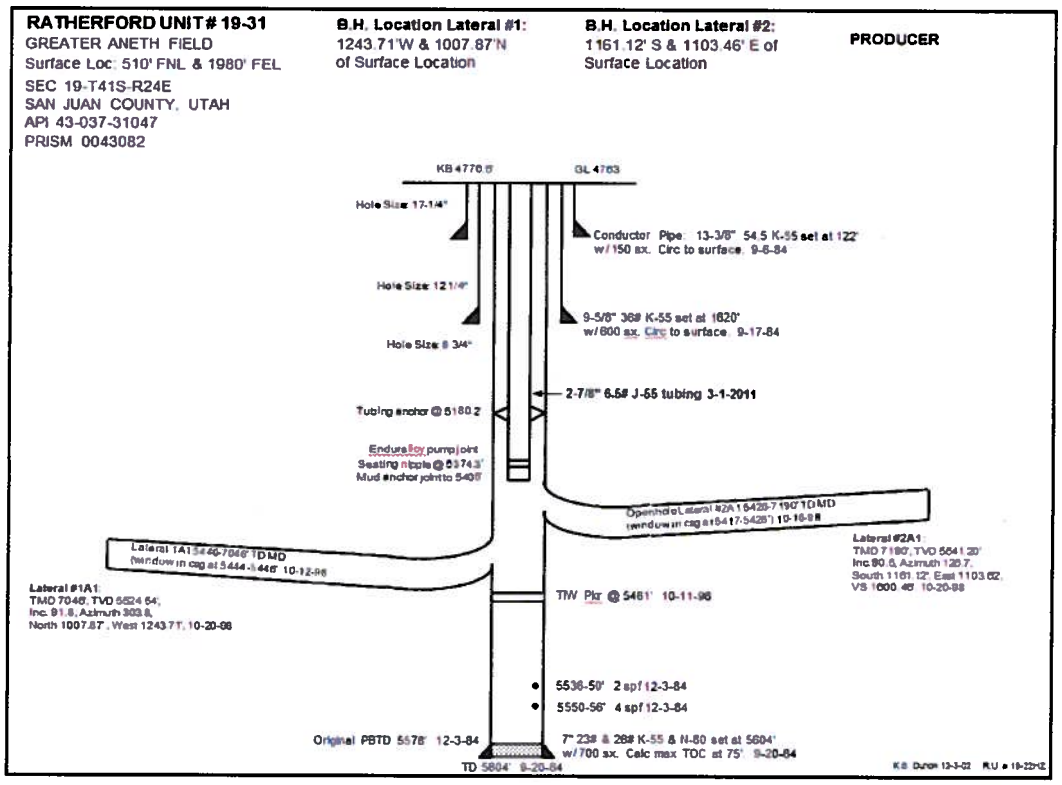
Resolute
Natural Resources

Date: May 20, 2015

Re: RU 19-31 Tubing Repair

Procedure
Horsley Witten: NO

1. MIRU WSU, LOTO.
2. Pressure test tubing to 1000 psig (expect failure).
3. Kill well as necessary.
4. POOH with rods & 2" insert pump, standing back for inspection. Call Bill Albert (970) 371-9682 to inspect rods. If unavailable, contact Tech Support: Virgil Holly (435) 444-0020, or Nate Dee. If rods are replaced, run reconditioned if available in Resolute stock; if not, run new.
5. ND WH, NU BOPE, prepare to pull & stand back 2-7/8 tubing (YB run 3-1-2011).
6. Release the TAC at ~5180'. Pick up tubing & install a packer to test BOP; pressure test BOPE. LD packer.
7. POOH, standing back 2-7/8 tubing. Call Bill Albert (970) 371-9682 to inspect tubing. Replacement tbg, if required, will be new FBNAU 2-7/8.
8. Make spaced bit & scraper run: bit to TIW at 5461', scraper to ~5415'/top of upper window at 5417'. Circulate clean w/FW. POOH w/bit & scraper.
9. TIH w 3-1/2" SMA joint, x-over, 2-7/8 carbon steel SN, x-over, 3-1/2" blast jt, x-over, 3 jts tbg, 7" TAC, 2-7/8 tbg to surface. Set TAC at ~ 5246'; EOT at ~ 5405' as before.
10. Land tubing. NDBOP, NUWH.
11. RIH with 1-1/4" x 16' GA, new 2" insert pump, & rods. Contact Tech Support for pump & rod details.
12. Long stroke pump to test for good pump action.
13. Leave enough polished rod for operators to correctly space pump as required.
14. Notify the Area Production Supervisor Alfred Redhouse (435) 619-7227 that well is ready to return to production.
15. RDMOL. Hook up appropriate chemical treatment.


RATHERFORD UNIT # 19-31
GREATER ANETH FIELD
Surface Loc: 510' FNL & 1980' FEL
SEC 19-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-31047
PRISM 0043082
B.H. Location Lateral #1:
1243.71'W & 1007.87'N
of Surface Location
B.H. Location Lateral #2:
1161.12' S & 1103.46' E of
Surface Location
PRODUCER
KB 4776.6'
GL 4763
Hole Size: 17-1/4"
Conductor Pipe: 13-3/8", 54.5 K-55 set at 122'
w/ 150 sx. Circ to surface: 9-8-84
Hole Size: 12 1/4"
9-5/8" 36# K-55 set at 1620'
w/ 600 sx. Circ to surface: 9-17-84
Hole Size: 8 3/4"
2-7/8" 6.5# J-55 tubing 3-1-2011
Tubing anchor @ 5180.2'
Enduraflex pump joint
Seating nipple @ 5374.3'
Mud anchor joint to 5409'
Openhole Lateral #2A1 5428-7190' TD MD
(window in csg at 5417-5428') 10-16-98
Lateral #2A1:
TMD 7190', TVD 5641.20'
Inc 90.6, Azimuth 128.7,
South 1161.12', East 1103.62',
VS 1600.46' 10-20-98
Lateral 1A1 5446-7046' TD MD
(window in csg at 5444-5446' 10-12-98
Lateral #1A1:
TMD 7046', TVD 5524.64',
Inc. 91.8, Azimuth 303.8,
North 1007.87', West 1243.71', 10-20-98
TIW Pkr @ 5481' 10-11-98
5536-50' 2 spf 12-3-84
5550-56' 4 spf 12-3-84
Original PBTD 5578' 12-3-84
7" 23# & 26# K-55 & N-80 set at 5604'
w/ 700 sx. Calc max TOC at 75' 9-20-84
TD 5604' 9-20-84

Sundry Number: 63433 API Well Number: 43037310470000

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
14-20-603-353

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
NAVAJO

7.UNIT or CA AGREEMENT NAME:
RATHERFORD

1. TYPE OF WELL
Oil Well

8. WELL NAME and NUMBER:
RATHERFORD UNIT 19-31

2. NAME OF OPERATOR:
RESOLUTE NATURAL RESOURCES

9. API NUMBER:
43037310470000

3. ADDRESS OF OPERATOR:
1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535

PHONE NUMBER:
303 534-4600 Ext

9. FIELD and POOL or WILDCAT:
GREATER ANETH

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0510 FNL 1980 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 19 Township: 41.0S Range: 24.0E Meridian: S

COUNTY:
SAN JUAN

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Accepted by the Utah Division of Oil, Gas and Mining

Date: June 04, 2015

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Erin Joseph	303 573-4886	Sr. Regulatory Analyst
SIGNATURE		**DATE**
N/A		5/21/2015

RECEIVED: May. 22, 2015

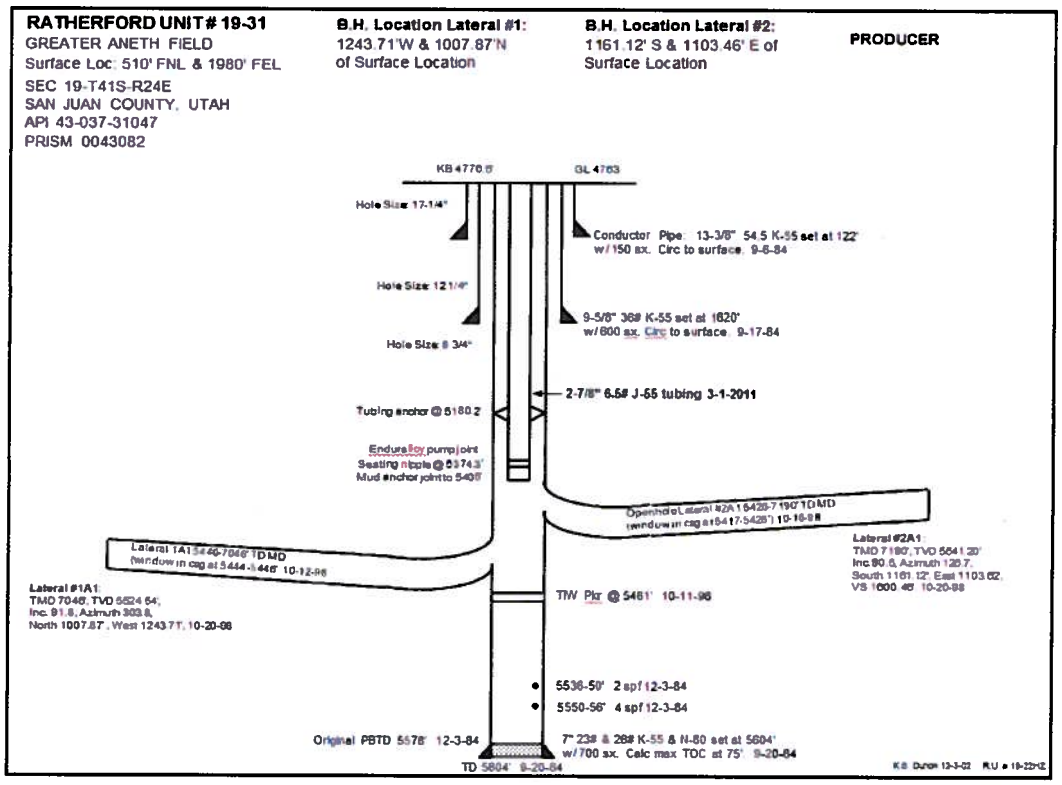
Resolute
Natural Resources

Date: May 20, 2015

Re: RU 19-31 Tubing Repair

Procedure
Horsley Witten: NO

1. MIRU WSU, LOTO.
2. Pressure test tubing to 1000 psig (expect failure).
3. Kill well as necessary.
4. POOH with rods & 2" insert pump, standing back for inspection. Call Bill Albert (970) 371-9682 to inspect rods. If unavailable, contact Tech Support: Virgil Holly (435) 444-0020, or Nate Dee. If rods are replaced, run reconditioned if available in Resolute stock; if not, run new.
5. ND WH, NU BOPE, prepare to pull & stand back 2-7/8 tubing (YB run 3-1-2011).
6. Release the TAC at ~5180'. Pick up tubing & install a packer to test BOP; pressure test BOPE. LD packer.
7. POOH, standing back 2-7/8 tubing. Call Bill Albert (970) 371-9682 to inspect tubing. Replacement tbg, if required, will be new FBNAU 2-7/8.
8. Make spaced bit & scraper run: bit to TIW at 5461', scraper to ~5415'/top of upper window at 5417'. Circulate clean w/FW. POOH w/bit & scraper.
9. TIH w 3-1/2" SMA joint, x-over, 2-7/8 carbon steel SN, x-over, 3-1/2" blast jt, x-over, 3 jts tbg, 7" TAC, 2-7/8 tbg to surface. Set TAC at ~ 5246'; EOT at ~ 5405' as before.
10. Land tubing. NDBOP, NUWH.
11. RIH with 1-1/4" x 16' GA, new 2" insert pump, & rods. Contact Tech Support for pump & rod details.
12. Long stroke pump to test for good pump action.
13. Leave enough polished rod for operators to correctly space pump as required.
14. Notify the Area Production Supervisor Alfred Redhouse (435) 619-7227 that well is ready to return to production.
15. RDMOL. Hook up appropriate chemical treatment.


RATHERFORD UNIT # 19-31
GREATER ANETH FIELD
Surface Loc: 510' FNL & 1980' FEL
SEC 19-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-31047
PRISM 0043082
B.H. Location Lateral #1:
1243.71'W & 1007.87'N
of Surface Location
B.H. Location Lateral #2:
1161.12' S & 1103.46' E of
Surface Location
PRODUCER
KB 4776.6'
GL 4763
Hole Size: 17-1/4"
Conductor Pipe: 13-3/8", 54.5 K-55 set at 122'
w/ 150 sx. Circ to surface: 9-8-84
Hole Size: 12 1/4"
9-5/8" 36# K-55 set at 1620'
w/ 600 sx. Circ to surface: 9-17-84
Hole Size: 8 3/4"
2-7/8" 6.5# J-55 tubing 3-1-2011
Tubing anchor @ 5180.2
Enduraflex pump joint
Seating nipple @ 5374.3'
Mud anchor joint to 5409'
Openhole Lateral #2A1 5428-7190' TD MD
(window in csg at 5417-5428') 10-16-98
Lateral #2A1:
TMD 7190', TVD 5641.20'
Inc 90.6, Azimuth 128.7,
South 1161.12', East 1103.62',
VS 1600.46' 10-20-98
Lateral 1A1 5446-7046' TD MD
(window in csg at 5444-5446' 10-12-98
Lateral #1A1:
TMD 7046', TVD 5524.64',
Inc. 91.8, Azimuth 303.8,
North 1007.87', West 1243.71', 10-20-98
TIW Pkr @ 5481' 10-11-98
5536-50' 2 spf 12-3-84
5550-56' 4 spf 12-3-84
Original PBTD 5578' 12-3-84
7" 23# & 26# K-55 & N-80 set at 5604'
w/ 700 sx. Calc max TOC at 75' 9-20-84
TD 5604' 9-20-84

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
14-20-603-353

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
NAVAJO

7.UNIT or CA AGREEMENT NAME:
RATHERFORD

1. TYPE OF WELL
Oil Well

8. WELL NAME and NUMBER:
RATHERFORD UNIT 19-31

2. NAME OF OPERATOR:
RESOLUTE NATURAL RESOURCES

9. API NUMBER:
43037310470000

3. ADDRESS OF OPERATOR:
1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535

PHONE NUMBER:
303 534-4600 Ext

9. FIELD and POOL or WILDCAT:
GREATER ANETH

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0510 FNL 1980 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 19 Township: 41.0S Range: 24.0E Meridian: S

COUNTY:
SAN JUAN

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☑ SUBSEQUENT REPORT Date of Work Completion: 5/28/2015	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☑ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Resolute Natural Resources respectfully submit this sundry as notice that the tubing repair on the above well was completed on 5/28/15

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
January 25, 2016

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Erin Joseph	303 573-4886	Sr. Regulatory Analyst

SIGNATURE	DATE
N/A	1/22/2016

RECEIVED: Jan. 22, 2016